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*This magazine is dedicated to the interpretation, in authentic and popular form, with extensive illustration, of geography in its widest sense, first of Canada, then of the rest of the British Commonwealth, and other parts of the world in which Canada has special interest.*

*The British standard of spelling is adopted, substantially as used by the Dominion Government and taught in most Canadian schools, the precise authority being the Oxford Dictionary as edited in 1929.*

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Tri-colour plates made for Canadian Geographical Journal from photograph by Canadian National Railways.

*A general view of the heart of Montreal, looking from Mount Royal to the St. Lawrence River. In the centre are two of the city's three tallest skyscrapers, the head offices of the Royal Bank of Canada and of the Bell Telephone Company of Canada. At the right is the Victoria Bridge, one of the links between the Island of Montreal and the mainland.*

# Canadian Geographical Journal

## La Ville de Montreal

By KENNEDY CRONE

THE BROMIDES, or hackneyed phrases, supposed to typify the city of Montreal, in whole or part, are many and vivid. She is, for

example: — the metropolis of Canada; the second city of the Empire; the fifth largest city and the second largest port on the American continent; the second greatest inland port of the world, excelled by London alone; the Paris of America; the Capital of New France; after Paris, the largest of all French-speaking cities; the city of churches, of romance and tradition, of Canadian industrial and commercial supremacy, of two million visitors a

year; the melting-pot of Latin and Anglo-Saxon culture; the only genuine world-minded city in the western hemisphere; amongst the first six of the world's most beautiful and charming cities; the shining example of a courteous population; successor of savage Hochelaga and pious Ville Marie; fifty times the possessor of

the world's first and greatest, from the biggest single structure ever laid stone on stone, to the finest fire brigade in existence.



Canadian National Railways photograph.

*The Old Seminary. Shut off from the hurry and bustle of commerce, this residence, built in 1685, of unhewn stone from the fields, has always been occupied by the Gentlemen of Saint Sulpice, seigneurs of the Island of Montreal and first clergy of Ville Marie.*

To Americans she is "Abroad, overnight" and the British city to which thousands of Americans come to celebrate Washington's birthday, and drink to liberty from the tyrant with the tyrant's beer.

Not to be too sweet about it, there are other bromides, too, including those which describe her as a forbidding fortress of the Holy Roman Empire, the bungler of town-planning and traffic control, the home of the natural politician, the bulwark

of conservatism under whatever label, and the pinnacle of racial prejudice.

But when all the bromides are assembled, and it is admitted that bromides, like platitudes, contain measures of truth, and occasionally, of course, the reptile half-truth, they utterly fail to express the beating heart of Montreal,

KENNEDY CRONE is Managing Editor of the Canadian Geographical Journal. The historical data in this article has been drawn from the works of Dr. W. H. Atherton, author of "The History of Montreal" and Associate Editor of "The Storied Province of Quebec."

or convey to the stranger anything about her and gives her a place in the approaching the tout ensemble of the city and its people.

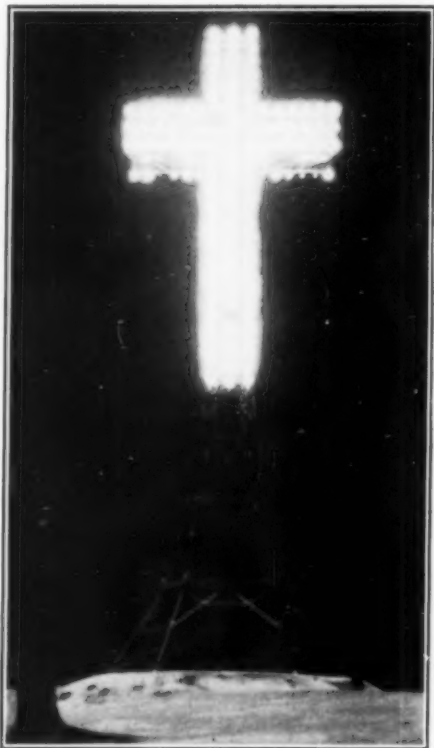
To begin with, Montreal rarely repeats for general consumption any of these things, good or bad, about herself. She does not even show that she is particularly conscious of them. She abhors sloppy sentiment and sterile sloganism. She has no braggadocio and regards it in others with a casual contemptuousness. Outside criticism rarely gets beneath her skin. She is, however, quite self-critical beside her own radiators; the state of mind expressed in the Americanism "Boost, don't knock" is not Montrealesque at all.

Like London, she has a solid, quiet, pride in herself, but she does not talk about it. Montreal rather assumes, with a touch of superciliousness, again like London, that the world knows a lot

about her and gives her a place in the sun. If some persons do not happen to know or understand her, well, that is too bad, but so far as she is concerned they can go on stewing in their own ignorance. She is busy with other things.

Much talk and print is made of a supposed rivalry between Toronto and Montreal, but of Montreal it can be said that she cannot be whipped into interest. Toronto has for years labelled herself as the "Queen City." Montreal has never considered taking the title of "King City."

Montreal is one of the few Canadian or American cities without a highly-organized Publicity Department, and as a city does not even issue a map or a street guide, except to local policemen. Only after years of sectional agitation has she this year grudgingly appointed an Industrial Commissioner, part of whose job will

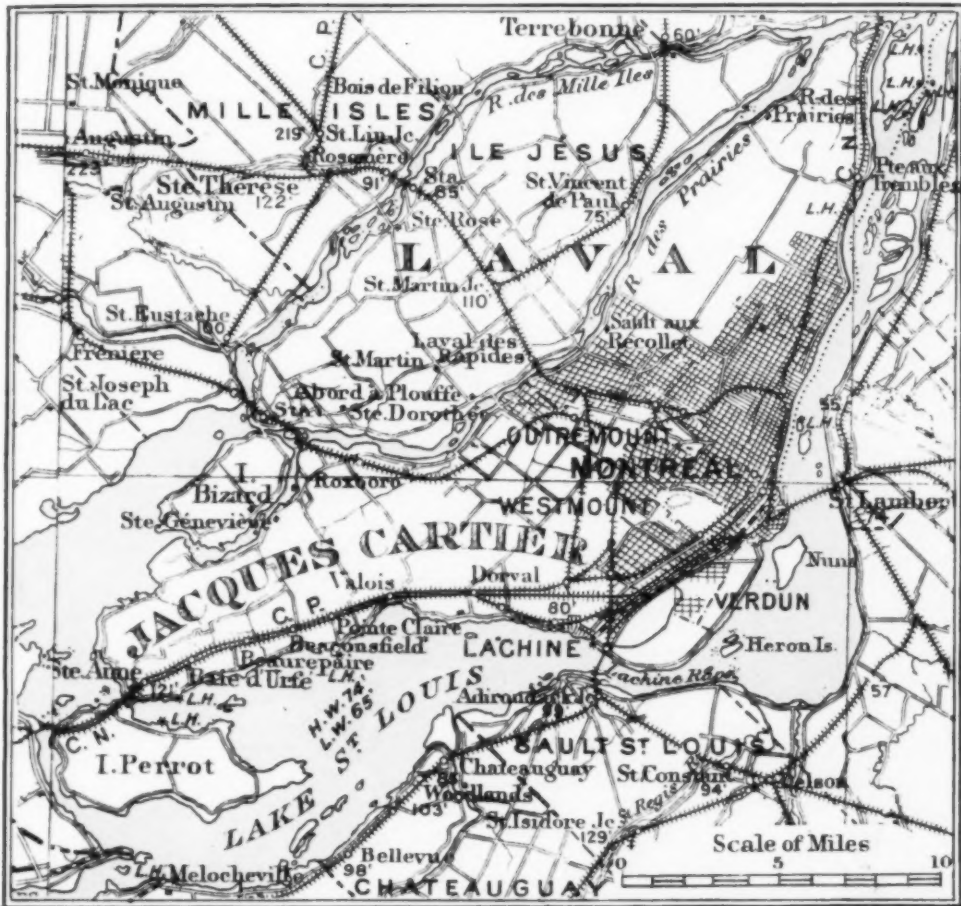


Canadian National Railways photograph. The huge electrically-lit Cross on the top of Mount Royal. It can be seen for 60 miles at night.



While one may not view the natural beauty of Mount Royal from an automobile, one may see it from the lofty seats of a "tally-ho." Only the automobile of the Prince of Wales has ever been allowed to enter this natural park, and even a mayor of the city was threatened with arrest for taking a party in by car.





National Development Bureau.

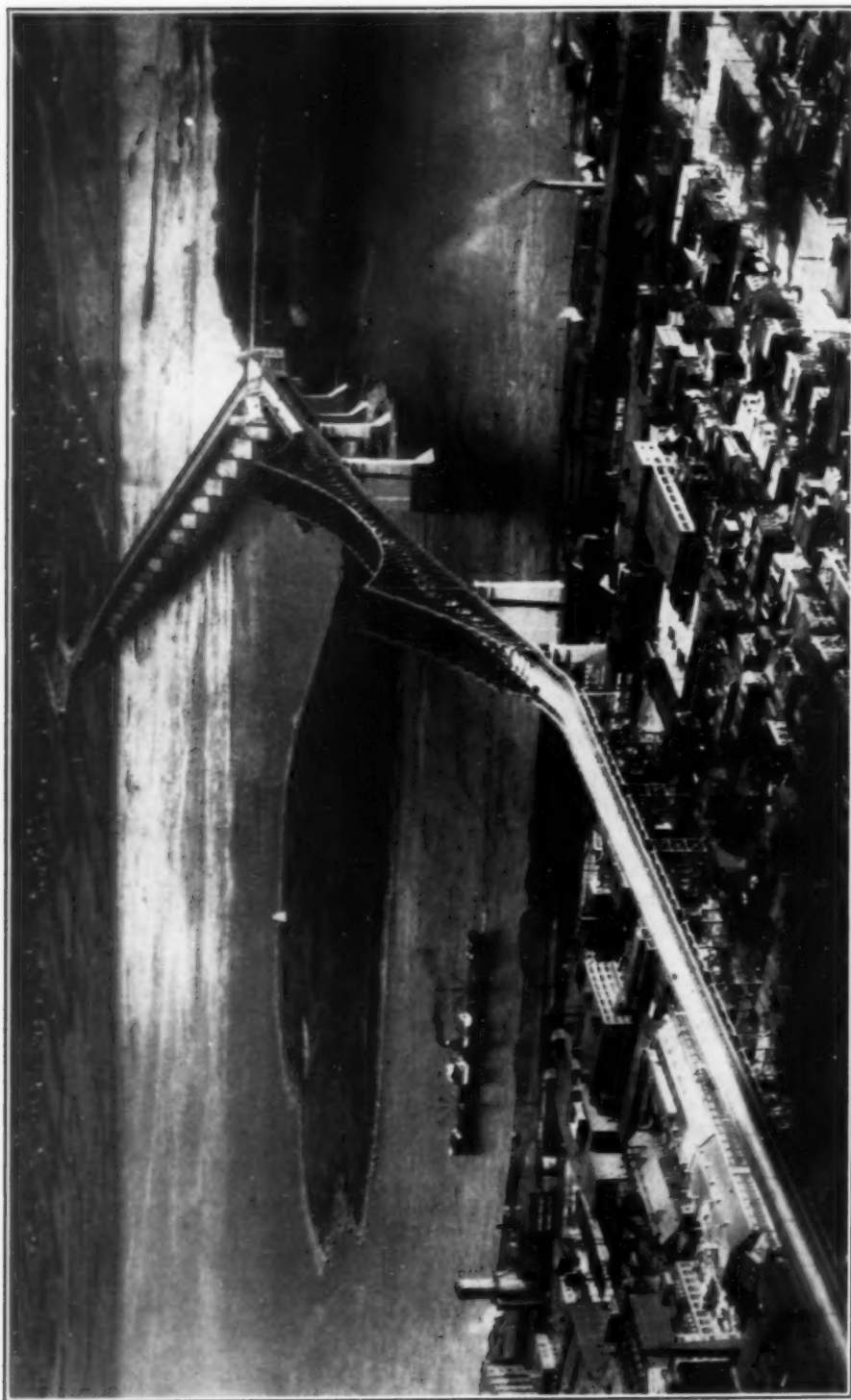
Map of the Island of Montreal and surrounding islands and mainland.

be to advertise the city with what remains of \$50,000 after various other expenditures have been made out of the sum. It is impossible to get a photograph of the City Hall at the City Hall. Anyone wanting to collect a lot of half-decent pictures of Montreal has to dig in all sorts of strange and out-of-the-way places, and then not get half of what is sought. A month's search on behalf of this article did not reveal a single good negative of the Hotel Dieu, one of the oldest and largest hospitals in Montreal, and Journal photographers had to specially take this subject and others.

The probable truth is that Montreal feels she is, while mainly Canadian, also partly European, and not ashamed of it; she has gone past the parochial outlook and status of many communities

on this continent and combined within herself the world vision and the best of Canadianism. Montreal is at once the most comprehensively-Canadian city, and the Canadian city which neither asks nor cares who you are or where you come from, as long as you play the game. The commerce and other attributes of all nations flow through her in great streams by road and rail and water. She is the neck of the bottle for the world in its dealings with the greater part of Canada, to and fro. These things help to make her cosmopolitan, blase, sophisticated. With her sophistication is an odd streak of naivete and ingenuousness, inherited, perhaps, from days of French and early British rule just as the unexpected courtesy of the Montreal

(Continued on page 9)

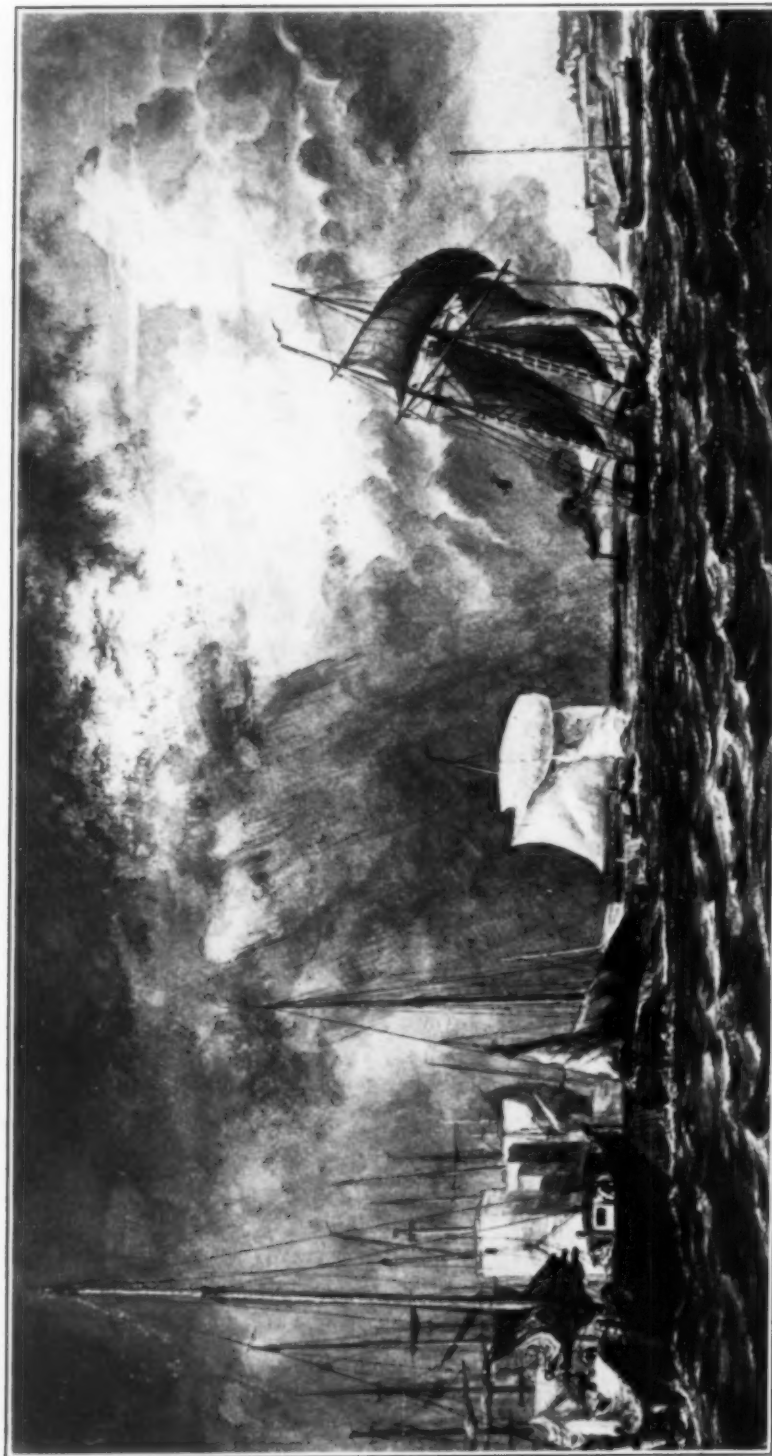


*An aerial view of the new Montreal Bridge, connecting the city with the south shore. This bridge was built particularly to provide a further outlet and inlet for automobile traffic. Ocean steamers can pass beneath the largest span.*

*Compagnie Aérienne Franco-Canadienne photograph.*



Royal Canadian Air Force photograph.  
*Part of the city as seen from the harbour, showing trans-atlantic liners and many other types of shipping.*



*A squall from the north-east on the St. Lawrence near Montreal in sailing-ship days. From a painting by J. Henry Sandham, R.C.A.*

W. Notman photograph.



## LA VILLE DE MONTREAL

(Continued from page 5)

traffic policeman, or porter, or man-in-the-street, comes from old Brittany, Georgian England, the Scottish associations of exploration days with the North West Company and the Hudson's Bay Company, or maybe by way of the American Colonists who entered the northern wilds rather than deny the flag of their forbears.

She is amongst the least American-looking of Canadian cities—unmistakably Latin and Anglo-Saxon and Celtic in her most prominent outer aspects, and with deft and often undesigned touches of the great capitals of the civilized world. It is only within recent years that she has permitted any building to be more than 10 storeys in height, and she is not yet sure that she likes skyscrapers. There are only three, spaced so that they do not mar the grace of the city, their plans carefully gone over to get the best in architecture.

Gone long ago is the once-prevalent atmosphere of exploration, Indian trading, missionary work, trapping, fronting, which the occasional stranger, taking his lore from a Hollywood movie, still expects to see, to the surprise of local citizens; in its place a humming city of close to a million and a quarter inhabitants, truly rich in history and tradition, and signs of the days gone by, but in most respects as modernized as any other great city, even to its slums and its rendezvous of the demi-monde.

Apart from figures, Montreal is a city with character and individuality of its own, and hardly comparable to any other large city, not even in Canada. Try to imagine a place in which within an hour or two the Rambler can be in the Chateau of the Governor appointed by Louis

XIV; see several of the most dignified banking halls of modern times; stand in an old-fashioned garden framed with some of the oldest buildings of the white man on this continent; ride in taxi and tramway services without equal anywhere, or in the bumpiest of mid-Victorian horse cabs; pass through public parks which are le dernier cri in landscape gardening and horticultural art, and, five minutes later, in the centre of the city, enter steep Mount Royal Park, deliberately left practically as it was when the Iroquois laid wait behind the trees; see together the greyhounds of the Atlantic and the sturdy little bateaux copied from those of St. Malo nearly 300 years ago; pass a row of houses which suggests Madeira, another which is Park Lane, a square from Edinburgh, suburbs that are



*The statue of Queen Victoria, Victoria Square, erected during the early years of her reign, and showing the Queen as a young woman. The anniversary of her birthday is still honoured by placing flowers at the base of the statue.*

Mayfair, Bloomsbury and the Faubourg St. Germain, or apartmented like Boston or New York, street after street of the two-flat and three-flat homes with the outside stairway peculiar to Montreal, a Ghetto, a Chinatown, or the purely French region "east of the Main," or "L'est du Boulevard" (depending on



*Beaver Hall Hill to-day and yesterday. The Bell Telephone Company's building, in the centre of the upper picture, stands close to the site of Beaver Hall. The lower picture shows this part of Montreal as it was in 1800.*



*After a drawing by Richard Dillon.*



your upbringing); sit in a church which seats 9,120 worshippers, is a copy of Notre Dame, and has a great bell heard for 20 miles, and behind it traverse a wholesale district with the narrow twisting streets of the French regime, and many of the erstwhile drawing-rooms of the haute monde turned into warehouses for all sorts of commodities; visit cafes, tavernes and salles - a - manger which might just as easily be in Deauville or the Montmartre, cafeterias and

"Joe's quick lunches" of Broadway and the Bowery, and which have arising amongst them the latest of giant hotels, with bath, phone and radio for every room; note immense convents and monasteries, a great University with the Oxford-St. Andrew's air and another reminiscent of the Sorbonne, a female jail managed by nuns, hospitals of antiquity and hospitals of world-wide repute in research and marvels of treatment and cure, towering grain elevators, impressive office buildings with batteries of automatically-controlled cars, the old-time French homes with high-

pitched roofs, an electrically-lit Cross on the hilltop (seen at night for 60 miles), the Canadian base of the transatlantic dirigible, R-100; see the oldest railway station, still in daily use, and the latest, of vaulted halls, and luxurious, efficient appointments,—and the awesome cavity near the centre of the city which involved sweeping acres of old districts out of existence that one of the world's largest railway stations might come into being; enter the reservation from which the peaceable Iroquois go to work as handymen and structural steel workers on the very sites where their paint-and-

feather forefathers used arrow, tomahawk, and knife. A medley of old and new, of diverging and distinguishable ethnic groups, of culture and commerce, the beautiful and the bizarre, of the odours of spice and perfume of older days and the carbon monoxide of nearly 70,000 automobiles, of public signs and the clamour of voices in two languages, an almost-indescribable medley indeed.

A medley, and a melody, too; a modern, metropolitan melody strung on the chords of a pulsing, picturesque past.

Or look at the Rue St. Catherine ("Katareen," si'l vous plait) the main shopping promenade which cuts a gash across the city on the third of the five hillside terraces the city climbs, and on which flows, almost constantly, broad streams of humanity. It has pictures, line for line, of Bond Street, the Rue de la Paix and Fifth Avenue, and its feminine burden is a seeming mixture of the obvious Englishwoman, the obvious Parisienne, and the obvious New Yorker, with the difference that the seeming Englishwoman is often liable to be French, the

seeming Parisienne to be English-Canadian, the seeming New Yorker to be either French or English-Canadian, while the real New Yorker, disguised in tourist garb, has commonly reached the broader category of "American visitor."

See in the streams, too, the English-speaking dowagers whose non-home links are deliberately with old London and the West Indies, with cool, aristocratic front which not the daily tensions of war-time and the dreaded cable from the King could melt in public, and yet, beneath, a soft and charming democracy that is native Canadian; representatives



*French-Canadian farmers and their customers bargaining at Jacques Cartier market.*



A scene at Jacques Cartier market. Here one may study the "habitants" as they come to the city from all sections of the surrounding country to sell their wares on Tuesdays and Fridays.

Canadian Pacific Railway photograph.



*An aerial view of Lafontaine Park. The lake with its gaily-coloured gondolas and canoes, and the miniature zoological garden, vie with the natural beauty of the park to draw residents from the crowded city streets to this oasis set in Montreal's east end.*

Compagnie Aérienne Franco-Canadienne photograph.



Associated Screen News photograph.

*Phillips Square, with Edward VII Monument. The central building is that of the Canada Cement Company.*

of the younger English-speaking social set, careful of their accents, educated to a polish in England, or on the continent, at least well-travelled in Britain, knowing, conceivably, the Norman Conquest and the significances of the Victorian era better than the voyages of Cartier or the development of the United States; pretty French shop girls, jostling and joking along in their clicking high heels and daring millinery; the mam'selles of the higher stratas, convent-bred, modest and serene, with innocently - alluring



Canadian National Railways photograph.  
*A winter scene. The part played by Canada's sons in the South African War is commemorated in this monument of a Trooper of the Strathcona Horse, on Dominion Square.*

eyes and graceful stride, and low-toned, musical French; French-Canadian matrons, conscious of an upper place in the social scheme, because marriage raises standing and brings liberties and right - to - experience hitherto unknown; a young Grenadier Guards lieutenant expressing in his deportment that his colonel is the Prince of Wales; a "Moun-tie" clanking spurs and pretending dignified indifference to the looks of others; a group of university students in black-and-red velvet berets, singing



snatches, usually not of a modern college song, more likely of an old French roundelay; nuns in their voluminous black skirts, and the varying head-dresses of their different Orders; priests in their cassocks; bare-headed monks in sandals and with a rope around the waist; a Bishop of the Church of England in Canada, with flat hat and long, black gaiters; blue-cloaked nurses of the Victorian Order, their lives given to service, irrespective of fees; a trio of pink-cheeked lads of the British Navy, arm-in-arm; sailors from a French gun-boat; Jewish news-boys; male and fe-



Canadian Pacific Railway photograph.

*Monument to the French-Canadian poet, Octave Crémazie, in Saint Louis Square.*

male tourists in plus fours and hose of noisy colour and pattern; alert business men smacking somewhat of Threadneedle Street, except that they wear silk hats only to funerals; beggars with a police license; tramcar conductors shouting street-names in French and English and "En avant, s'il vous plait; in front, please"; dressy French-Canadian blades with masses of black locks, d'Aragnans in love and war; a burly farmer and his ample wife, in to see la grande ville, uneasy in Sunday clothes, timid, apologetic, curious; tall, smiling, confident policemen



S. J. Hayward photograph.

*The uptown section of St. Catherine Street West, looking east.*



Canadian National Railways photograph.

*Notre Dame Church, more than 100 years old, is the mother church of the Roman Catholic faith in Montreal.*

who rule traffic with white-gloved hand and take the erring motorist's number with "I am sorry, monsieur, but—"; in winter, groups of skiers, skaters, and tobogganists, in picturesque costumes, on their way to sport, their happy banter mingling strangely, yet pleasantly, with the silver tinkle of sleigh bells coming through the clang of tram-car gongs medley again, and again, melody. A job of literary delineation demanding a Dickens or a Hugo for adequate interpretation.

The city of Montreal is the central section of the Island of Montreal. The island is  $30\frac{1}{2}$  to 36 miles long and from seven to 10 miles wide, and is the largest of a group of islands formed by the merging of the St. Lawrence and Ottawa Rivers. At Montreal's front door are the mingling waters of the two rivers, the currents of the Ottawa still holding identity by their clayish colour against the blue-green masses of the mightier St. Lawrence. The belts of water flowing past the island on both sides vary be-





Canadian Pacific Railway photograph.

*Interior view of Notre Dame, which ranks amongst the great churches of North America. The chimes in one of its twin towers include the famous 12 ton bell.*



*An interior view of St. Patrick's Church.*



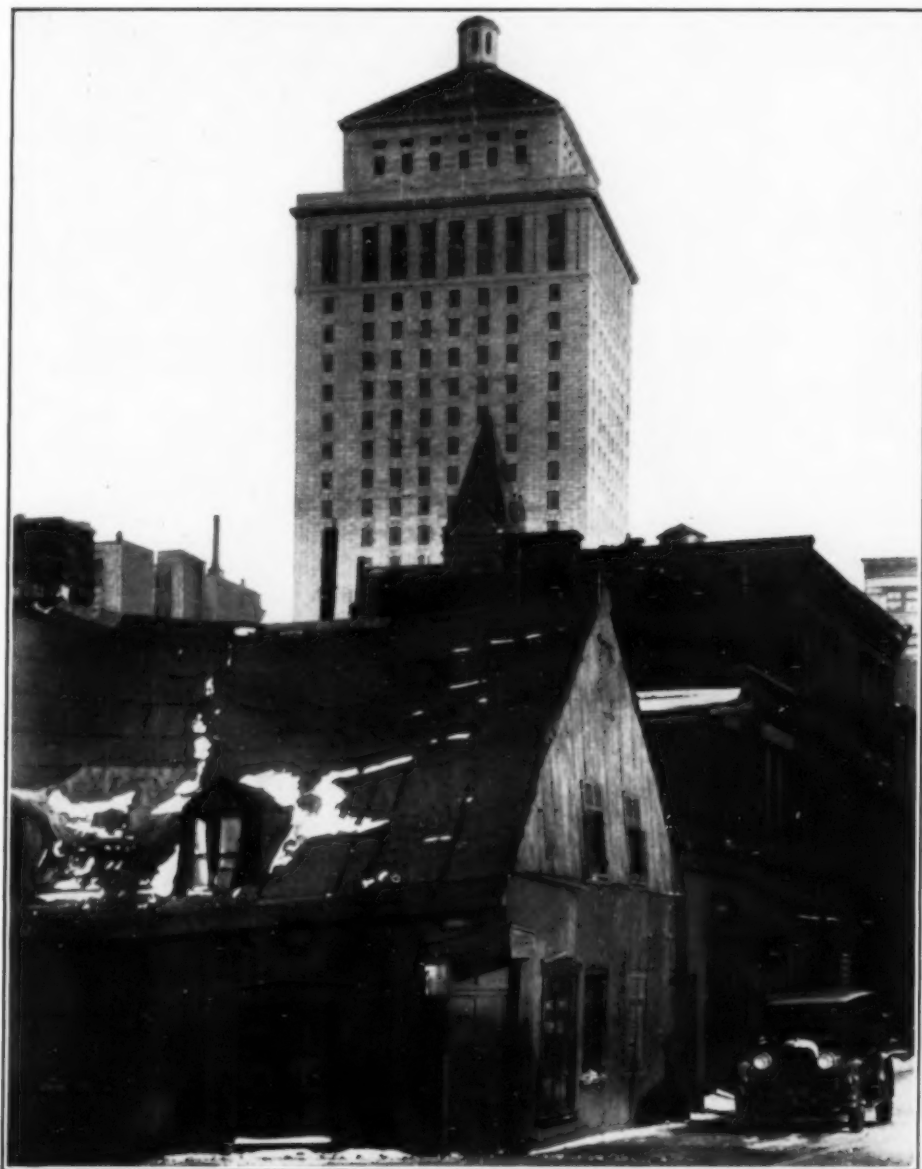
*The Sun Life Assurance Company building, now almost completed. It is 24 stories above the ground, of purely classical design, and will provide office space for between 12,000 and 15,000 people. Thirty-seven elevators will take care of its population and one of its many features will be a cafeteria capable of accommodating 2,500 diners at one sitting.*

tween a mile to seven miles in width, the greater widths being lake formations. Great bridges, three of them over two miles long, and one, carrying four traffic lanes, high enough to permit ocean steamers to pass beneath, form the principal links with the mainland.

In the heart of the island, and almost the centre of the city, is Mount Royal, a hill of 575 acres, rising 769 feet above sea level. It is the natural park already

referred to, and is now surrounded by the builded city. From the top of this hill it is possible to see the entire city as in a panorama, sloping down to the river boundaries, and visitors have often described the experience as one of the most unusual and entrancing of urban pictures, a feature of which lies in the tens of thousands of trees between the rows of flat-roofed structures.

Jacques Cartier, on his second voyage



*The old and the new. In its day this old building was probably considered the last word in modernity. To-day it serves but as a contrast to the present day idea of architecture as exemplified in the head office of the Royal Bank of Canada.*

from St. Malo, in 1535, gave Mount Royal its name. When Cartier paid his brief call there was already a palisaded settlement of 3,500 Huron Iroquois on the slopes of the hill. The Indians called it the district of Hochelaga, and it has been estimated by historians that this settlement dated back to about the year 1400. At any rate, it is apparent that a

few years after the New World was discovered, and exactly 38 years after Cabot had claimed North America for England, the Indian town of Hochelaga was already a mother city of this continent. The campus and buildings of McGill University stand where the chief town of Hochelaga stood.

The geologists say that in unknown



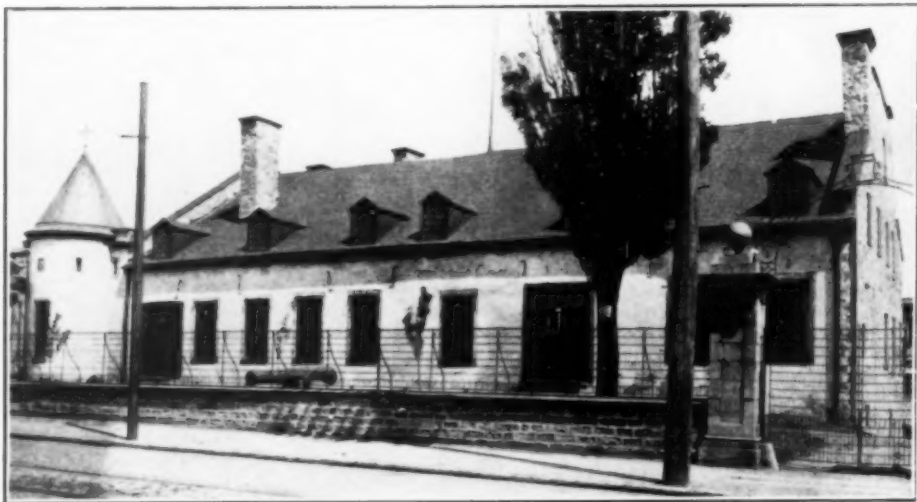
Associated Screen News photograph.

*The Hotel de Ville, or City Hall, of Montreal, which is, to a large extent, a reproduction of the Hotel de Ville of Paris.*

spans of time before, the waters of the Atlantic flowed over the site of Montreal, now 870 miles from the nearest entrance to the sea, and point for confirmation to the fossilized sea-shells commonly found in the region. The

sea receded. A period of volcanic activity followed, from which Mount Royal and other monteregian hills not far away arose.

Then came the glacial period, the glaciers grinding deep erosions in the



Canadian Pacific Railway photograph.

*Erected in 1705, and for 144 years the residence of French and English governors of colonial Canada, the Chateau de Ramezay is now a museum wherein one may absorb much pertaining to the earlier history of Montreal.*



Associated Screen News photograph.

*St. James Street, Montreal, the financial centre of Canada. The first building on the left is the Bank of Nova Scotia. Opposite is the Bank of Toronto, and overtopping all the Royal Bank of Canada.*

valleys and leaving only the cores of the volcanoes. To this day a regiment of soldiers in step can vibrate the peak of the old crater which is Mount Royal.

Again, the sea returned, somewhere in the yesterday of geology, a matter of 20,000 years or so ago, and when it receded once more, by slow stages, it left beaches or terraces, the highest being 568 feet up the slope of Mount Royal. These beaches are clearly distinguishable in the formation of the modern city.

The next outstanding date after the call of Cartier is 1611, when Samuel de Champlain, who had in the name of God and France founded the city of

Quebec three years earlier, made a spring and summer trading post at the river-side, which he named Place Royale, a mile or so from the settlement of Hochelaga, which in the meantime had disappeared. Place Royale is still Place Royale, and how well Champlain picked his harbours is shown by the fact that Place Royale remains today the pivot of Montreal's harbour, now more than eight miles long.

Following Champlain's death, in 1635, the Island of Montreal was granted to the Compagnie de Montreal, a body desirous of developing the island as a missionary and colonization headquarters. Seven years later the first executive officer of the company, Paul Chomedey de Maisonneuve, "devout and valiant gentleman" who consecrated his sword to the church in Canada, "and

*(Continued on page 25)*



Canadian National Railways photograph.

*University Tower, at the corner of University and St. Catherine streets, one phase of the movement of trade to the uptown section of the city.*





Associated Screen News photograph.

*An aerial view of the uptown section of Montreal. In the centre may be seen the Sun Life Building, now under construction, to the left Saint James Cathedral, and, behind and slightly to the left, Windsor Station.*



Associated Screen News photograph.

*The T. Eaton Company's department store, St. Catherine Street West.*





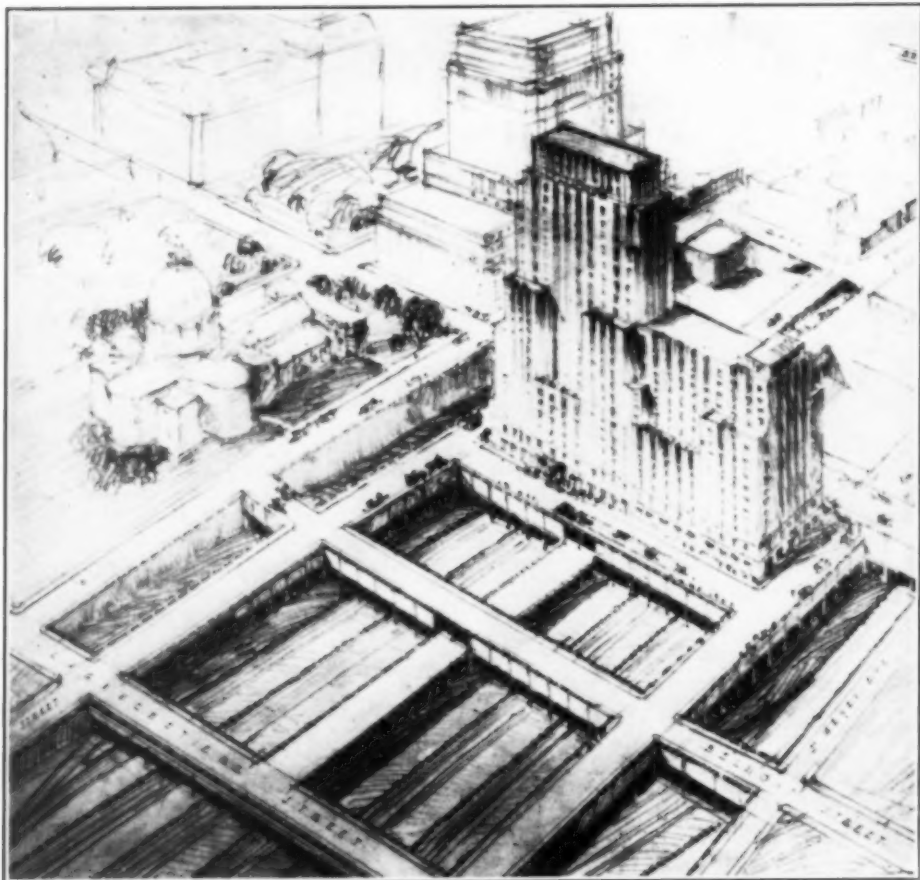
Associated Screen News photograph.

*Place d'Armes Square, with the head office of the Bank of Montreal to the left, and the offices of the Royal Trust Company to the right. The monument to Maisonneuve, founder of the city, stands in the centre of the square.*



Associated Screen News photograph.

*Sherbrooke Street West, Montreal's "Fifth Avenue," showing the "Chateau," one of the city's finest apartment houses, and a corner of the Art Gallery in extreme left of picture.*



Canadian National Railways photograph.  
*Architect's drawing of what the new Canadian National Railways terminal will look like when completed.*



Canadian National Railways photograph.  
*The present Canadian National Railways station (Bonaventure) on Chaboillez Square, the oldest station on the island.*

(Continued from page 21)

in whom lived again the spirit of Godfrey de Bouillon, leader of the first Crusade," arrived at the site of Montreal with about 60 persons from France to serve as soldiers and prospective settlers. He chose Place Royale as his site and named the new community Ville Marie, or City of Mary.

Amongst his colonists was a girl named Jeanne Mance, fired with missionary zeal, who gave her life to ministering to the sick, native and white, and earned a timeless niche in the French-Canadian mind.

Maison neuve erected a fort and for nearly 11 years, on account of the hostile Iroquois, the activities of the members of his little colony were confined to the fort and to the common just outside it. In 1653, however, he received reinforcements of about 100 colonists, the colony began to be pretty well able to take care of itself, and Ville Marie grew steadily up the hillside terraces towards Mount Royal. Farm concessions were granted, and the land cultivated.



Canadian National Railways photograph. The Mount Royal, largest of the many hotels which cater to the wants of Montreal's constantly growing tourist trade.



Photograph by Chalmers.

Christ Church Cathedral, one of the finest examples of Gothic in America. For many years an imposing spire made this church a landmark. A few years ago it was found to have shifted slightly out of alignment and it was thought advisable to remove it.

In 1657 representatives of the Sulpician Order arrived and in a few years they succeeded to the charge of the Compagnie de Montreal and became the seigneurs and proprietors of the island. Half a dozen years later New France became a crown colony and Ville Marie came more under the dominance of the city of Quebec than of France. For some time Ville Marie did not further expand, due to recurring hostility on the part of the Iroquois. Adam Dollard des Ormeaux, an officer of the garrison, and 16 French soldiers, with a few Indian allies, heroically saved it from destruction at the hands of advancing Iroquois in 1661 by intercepting the Indians at the Long Sault on the Ottawa River, and fighting there with such desperate valour that the Iroquois turned about and abandoned the attempt. It was, however, only after 1666, when more royal troops were sent from France, that the Iroquois were finally subdued.

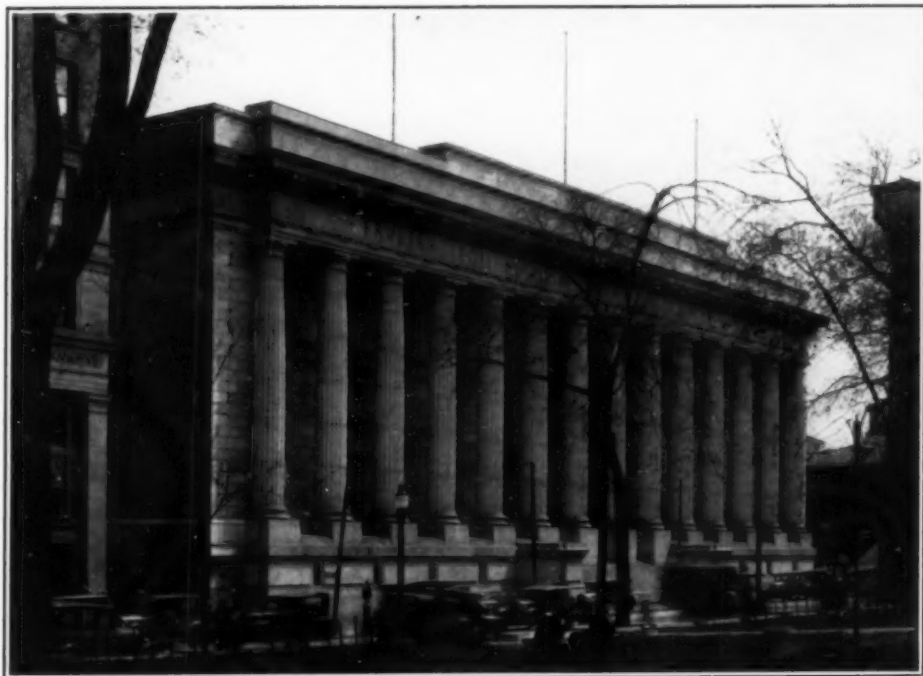
Montreal remained as Ville Marie until about 1703 when it became known



*Windsor Station, Montreal, the headquarters of the Canadian Pacific Company.*



*Place Viger Station and Hotel of the Canadian Pacific Railway Company.*



Associated Screen News photograph.

*Montreal's new Court House on Notre Dame Street.*



*Dominion Square Building at the corner of St. Catherine Street West and Peel Street.*





*The University of Montreal, on Saint Denis Street, formerly known as Laval University.*

by its present name. The totals of population to the end of the French regime were: 1661—560; 1671 — 675; 1681—700; 1691—785; 1701—1500; 1711—2340; 1721—3000; 1731—3640; 1741—4310; 1751—4800; 1761—5500.

The first streets were planned in 1672. Eight years later the first parish church was near to completion. The town became the centre of the fur trade and the starting-place of explor-



*Church of the Holy Name of Jesus.*

ations. La Salle, Marquette, Duluth, Cadillac and others outfitted there and departed on their journeys to the Great Lakes, Ohio, and the Mississippi.

Montreal was a stockaded town from 1685 to 1722. In 1723 it was fortified with stone walls which embraced an area of 110 French arpents, the measure still used, or 93 English acres. These walls lasted till about 1814.

During the last days of the French



regime, following the capture of Quebec by General Wolfe, the French moved their military headquarters to Montreal, which capitulated to the British forces on September 8th, 1760. Then began the extraordinary alliance of two pioneer races, an alliance surviving the Napoleonic Wars, the American Wars of 1775 and 1812, and the French Revolution, and so firmly established today that it had been said by French-Canadian statesmen in recent times that the last shot to be fired in defence of British North America would be fired by a French-Canadian.

From November 13th, 1775, to the end of June, 1776, Montreal was tem-



By Roland J. A. Chalmers.

*This old house was used as headquarters by John Jacob Astor during his adventures in the fur trade, and here he laid the foundations of the colossal Astor fortune.*

porarily under the American flag, to the disgust of the French-Canadians, who had found in British supremacy the guarantee of what they considered to be a real freedom, involving recognition of the permanency of their language and religious practices.

The famous North West Company was formed at Montreal in 1783, a combination of fur traders, mostly English-speaking, who, amongst other things, built the first Canadian canal, at Sault St. Marie, got into a series of murderous clashes with their older rivals, "the Governor and Company of

Adventurers of England Trading into

(Continued on page 33)



S. J. Hayward photograph.

*The new University of Montreal, set in the side of Mount Royal. It is to house the chief faculties only. The portion to the right is to be the University Hospital, to be used for the public. The many classical Arts colleges and affiliated schools are located elsewhere in the city.*



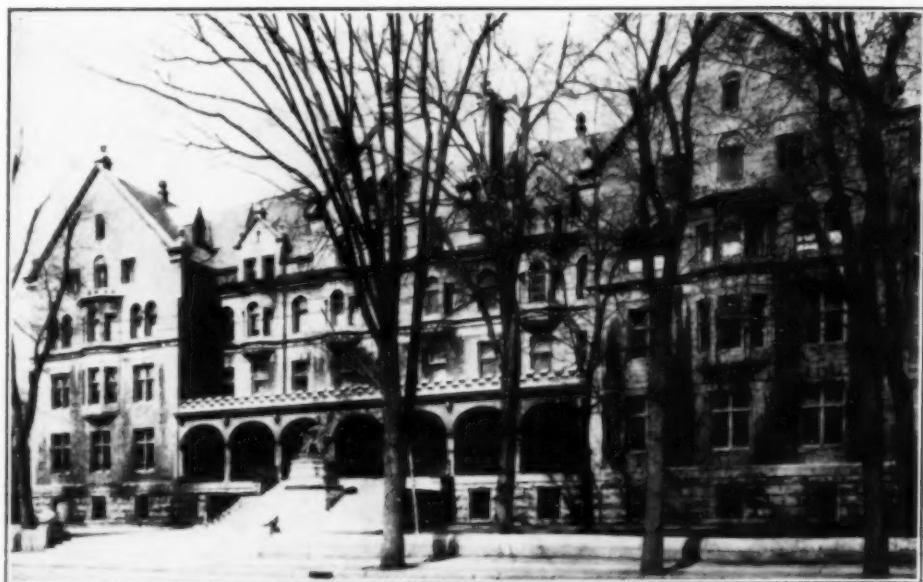
Compagnie Aérienne Franco-Canadienne photograph.

*Few realize that no less than 40 buildings go to make up McGill University. This picture shows the central group on Sherbrooke Street West.*



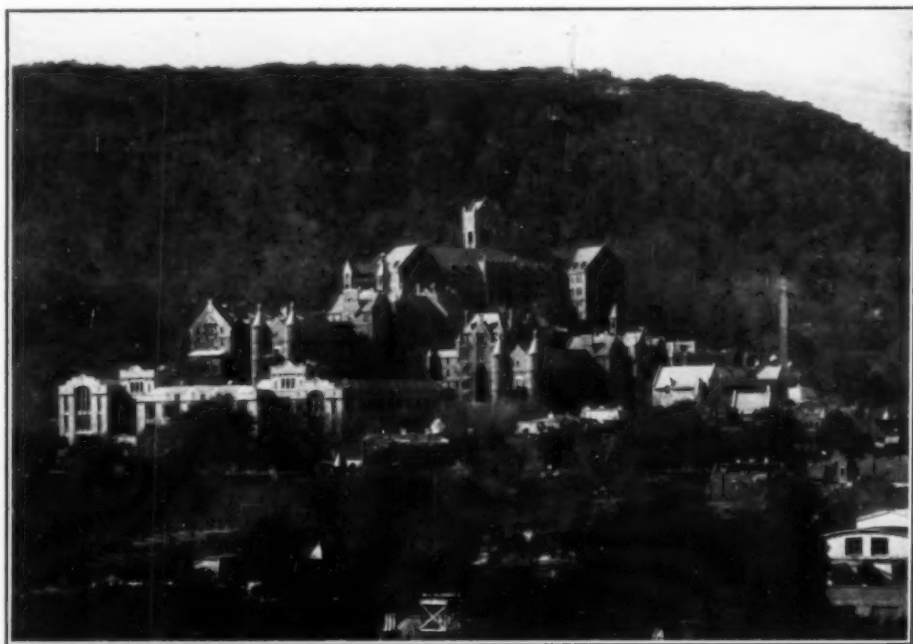
By permission of the National Gallery of Canada.

*The Arts building, McGill University. From an etching by Herbert Maw.*



Canadian Pacific Railway photograph.

*Royal Victoria College, the college for women which is affiliated with McGill University. A monument to Queen Victoria is on a pedestal at the main entrance.*



*In the shadow of Mount Royal nestles the Royal Victoria Hospital.*



Associated Screen News photograph.

*Loyola College, conducted by the Jesuit Fathers, is the only English-speaking Catholic classical college in the Province of Quebec.*



Batten Limited photograph.

*Ecole Polytechnique. Of Montreal's two technical schools the one pictured above, situated on St. Denis Street, is for French students, the other is for the English.*



*The Convent of Jesus and Mary, conducted as an educational institution by the Sisters of the Congregation of the same name.*



*The Mother House of the Congregation of Notre Dame, a teaching order of religious, founded by Margaret Bourgeois in 1659.*

*(Continued from page 29)*

Hudson's Bay," less grandiloquently known as the Hudson's Bay Company, and were finally, in 1821, absorbed by the older concern.

In 1815 the city, now a mixed assemblage of 15,000 French-Canadians, Scots and Englishmen, with the Scots, ever on the outposts of things, numerically quite strong, was considered a nice town in which farmers and frontiersmen might spend their last leisurely days. Manufacturing had recently begun. Town planning schemes were afoot, under the aegis of a commission which had as one of its members James McGill, the Scot who later founded McGill University.

An impressive monument had been erected to Admiral Lord Nelson of Trafalgar fame at the head of the second public market, now Jacques Cartier Square. Monument and market are still there, and Jean Ba'tiste and Madame and Little Ba'tiste still throng into the market from the country with produce of the soil for the people of the city.

In 1840 the population had grown to 40,465 and about that time the English-speaking minorities of Scotch and English were added to by a considerable influx of Irish. Montreal was still secondary to Quebec, the old capital city, but was then wresting from her the title of Canadian metropolis.



*Ville Marie Convent, one of Montreal's select finishing schools for Catholic girls.*





*The cenotaph on Dominion Square erected in memory of those who laid down their lives in the Great War.*

By 1861, the beginning of American Civil War days, population had grown to 90,323, and ten years later, four years after confederation of Canada, it was 107,223. Incidentally, Montreal sympathies in the Civil War seem to have been curiously divided between admiration for Abraham Lincoln and wish to end slavery, on the one hand, and, on the other hand, hope that the southerners, towards whom they felt a distinct kinship, would not be distressed and humiliated.

Meanwhile much railway development had taken place. In 1859 the first train from Montreal passed over the first bridge to the mainland. The bridge was the

Victoria Tubular Bridge, then regarded as the seventh wonder of the world. The

Prince of Wales, afterwards Edward VII, drove the last spike of the two-mile bridge, long since replaced by a larger and more modern Victoria Bridge. In those days were founded the railway links which resulted in Montreal becoming the headquarters of rail transport in the Dominion. Coincidentally, Montreal developed as the transatlantic port, and Scottish Montrealers founded and developed the famous Allan Line, a foundation often credited in error to the city of Glasgow.

Horse-drawn tramcars appeared in the year 1861 and led to a good deal of suburban develop-



Canadian National Railways photograph.  
*Monument to the memory of Sir George Etienne Cartier, renowned French-Canadian statesman, and the man who brought Quebec into Confederation.*



Canadian National Railways photograph.

*To the saviour of Montreal from the Iroquois in 1660, Adam Dollard des Ormeaux, this monument of stone and bronze stands in Lafontaine Park.*

ment. In 1871 the population had risen to 107,223. In 1879 electricity for public lighting was introduced. In 1887 a second bridge spanned the St. Lawrence, and in 1892 the tramway lines were electrified.

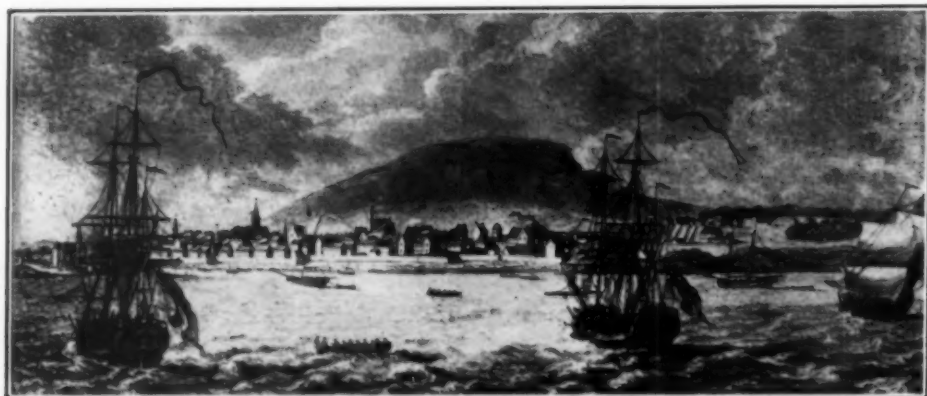
The greatest expansion in population has taken place from 1901, beginning with 266,826 and rising to 1,224,059 in greater Montreal last year, or approximately one-eighth of the entire population of Canada. Nearly two-thirds of the total population is native French-Canadian. The bal-



*Westmount, which is a small city in itself, although completely surrounded by the city of Montreal, erected this memorial in honour of her soldiers who fell in the Great War.*

ance is mainly English-speaking, and a part of it consists of 60,000 Jews. The commercial development of the city has been mainly due to the Anglo-Saxon and Celtic elements, although it would be difficult to fix definite lines of demarcation.

The French-Canadian is—almost 100 per cent of him—a devout Roman Catholic, with the Church a powerful influence. This aids to alienate him from modern France. Canada is his native country. After the Red Man, he was first in possession.

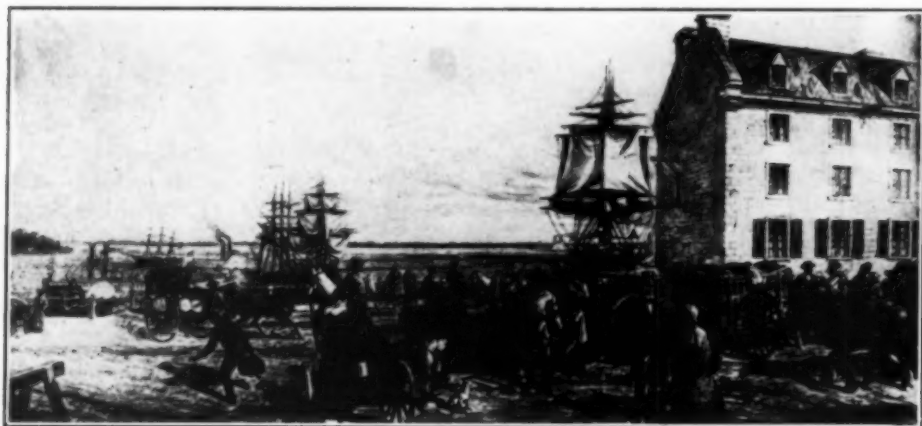


From an etching by P. Caton.

*An early view of Montreal. Drawn by Thomas Patten.*



*Notre Dame Street, about the year 1852.*



*Montreal's waterfront about the middle of the last century.*

Most of his traditions spring from his own history in Canada itself, or from the France of the 17th century. Old France has gradually become dimmer and more distant.

Then he has been British for nearly 200 years. He has had long and intimate association with the Anglo-Saxon and the Celt. In addition to his own language, he usually speaks as good English as he whose language it is, often better English.

There are readily-recognizable types of French-Canadians as there are readily-recognizable types of all races. Yet it is comparatively easy for the stranger to mistake the English-Canadian for the French-Canadian and vice versa. In addition to the fact that many in each group speak the language of the other group with fluency, each has absorbed something of the other's superficial habit, deportment and general appearance, and even of the other's language into its own.

The expressive French shrug is far from being limited to the French-Canadian.

A stranger, asked to name the race which in everyday life in Montreal came nearest to the French-Canadian, would be likely to first name the Irish, particularly as a people sharing a common creed, and to last name the Scotch as a people differing in creed and other ways. But the Scotch have it. French-Canadians and Scots will "Josh" each other freely, but it would be dangerous for an onlooker to criticize the French-Canadian to the Scot, or the Scot to the French-Canadian. There is a definite and well-established entente cordiale between the two.

Attempts at explaining this special friendship include reference to intimate Scottish associations with France prior to the union of the crowns, to Scottish

regiments in olden days coming to Canada to fight, and staying to wed into the families of their temporary enemies, to the common pious background of Scot and French-Canadian, to the emphasis both place on the home and family life, to their joint and unusual faculty of enjoying jokes against themselves, and to the penetrating democracy of the Scot who usually believes that "a man's a man for a' that."

The city alone sent close on 40,000 soldiers to fight alongside the Empire's armies in the Great War. Most marched out when it was well known that Hell gaped for them. Sacrifices struck home with terrific force. There is no heart left for the glories of war except as seen through the mist of tears.

There is much less of serious crime than in, say, large cities in the United States. The criminal law is swift, sure, and no respecter of "pull" or "personages." There is no "third-degreeting"; it would be censured by the judiciary and public opinion generally. The

people are immensely proud of the sterling integrity and skill of the judiciary, and bitterly resentful of any attempts at "influencing" judges.

The Montrealer does not think that he has a model administration by any means, but is usually more concerned with questioning judgment than good faith.

Sometimes strangers see the more public expression of local tradition only as archaic and useless, if picturesque, pageantry. Montrealers feel that they have missed entirely the deep-driven sentiments of tradition through which the pageant becomes an epitome of history and an inspiration, and without which it would be as meaningless as a circus parade. The preservation of both French and British tradition is en-



Canadian Pacific Railway photograph.

*The history of Montreal's early days is recalled in the pageant which forms part of the annual Saint Jean Baptiste parade.*



Compagnie Aérienne Franco-Canadienne photograph.

*College Jean de Brebeuf, a classical college for French-Canadian young men under the direction of the Fathers of the Society of Jesus.*

couraged rather than otherwise. When the Mount St. Louis French-Canadian cadets parade, in their old-time uniforms, the city turns out to see and applaud; and a parade of the Royal Highlanders lines the streets with admiring French-Canadians.

Religion is not a taboo subject, or a subject for violent dissension, in this Roman Catholic city. There is a great

deal of mutual tolerance about it, this finding expression in a number of ways. To the ultra-Protestant who wonders how the poor Protestant minority can get along with the awful Roman Catholic majority, it can honestly be said that the majority is just as tolerant as any Protestant majority has ever been. Only the unscrupulous opportunist, taking a fleeting advantage of the ignorant,



Associated Screen News photograph.

*The home of the Art Association of Montreal, situated on Sherbrooke Street West and housing many famous works of painting and sculpture.*





Associated Screen News photograph.

*From all over the Province crowds come to the city to witness the St. Jean Baptiste parade, which takes place on June 24th.*

ever attempts to raise religious or race cries, which are disapproved by the bulk of the people. Much more religious and race trouble is credited to Montreal than actually exists.

While there is no general intermarrying, although there is a noticeable share of it, there is generous mixing of the two races in business and social affairs, and in other matters of interest to the community as a whole.

There are 212 Christian churches in Montreal. Exactly half are Roman Catholic, and for the most part larger churches than those used by the other denomination. Of the 106 non-Roman-Catholic churches, 37 are Church of England, 34 are United Church, and 21 are Presbyterian. There are 38 Jewish Synagogues.

The Sabbath day, which shocked Britons of the old school call the "Continental Sunday," interpreting the day of rest to mean the day of recreation after religious duties had been done, is pretty near the Montreal Sunday, and totally different from the Toronto Sunday which still preserves a remarkable calm and inactivity.

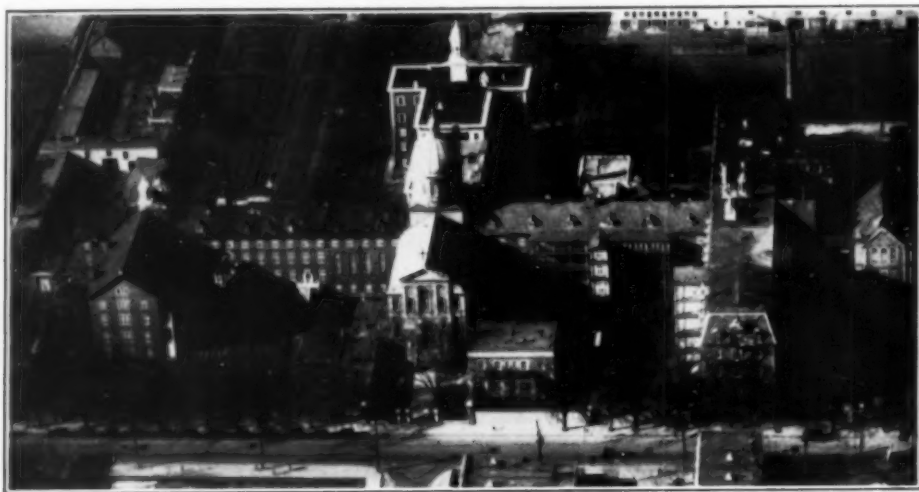
There are large English and French hospitals without barrier of race or creed in the matter of patients. With accident cases the first thought is to get them to the nearest hospital, whether French or English, Catholic or non-Catholic.

The local general mortality rate is amongst the lowest in large cities.

Montreal has an exceptional number of inhabitants of great age. The "four-



*The Dominion Express Building at the corner of Saint James and Saint Francois Xavier streets, in the heart of the downtown business district.*



Compagnie Aérienne Franco-Canadienne photograph.

*Another link with Montreal's early days. Hotel Dieu Hospital, founded by Jeanne Mance, who came to Canada with Maisonneuve.*

generations" photograph is not uncommon. Quebec is the province of large families. A family of eight children is as common as sunrise in Montreal, and much larger families are not unusual. On the other hand, there is a high infantile mortality, although the situation is improving year by year.

Montreal hostesses are almost as fussy as Englishwomen about their tea, the way it is made and the various social significances attaching to it. The old saying, "Three cups of tea and you belong to the family," if not literally true, has a substratum of real meaning. To decline a cup of tea requires tact,

because in offering it the hostess is making the high sign of friendship and hospitality.

American movies face in Montreal the strictest of all censorships, and under no condition is any child under 16 allowed to enter public movie shows.

Daily papers are in two distinct groups, French and English. Occasionally a hasty observer wonders why there are no dual-language dailies, especial-



*Montreal General Hospital, more than a century old. In the background is the modern part of the hospital.*

ly when there is much talk of co-operation between the two peoples. One large reason is that no one wants to read the same paper twice, or pay double for a double-sized paper of which only one-half can be useful to him. Single-language papers do not hint high fences between the two races. When it is necessary or desirable to use both languages, as on public proclamations or railway tickets, they are used. There are four French dailies and three English dailies. The largest daily circulation of a French paper is one of close to 200,000 and the largest daily circulation of an English paper is something over 100,000.

The Great Slander concerns Montreal's climate. The city is often supposed to have a brief, cold summer and a dreadful winter. In recent years, summer climate begins to be known for what it really is, but the city is still remote from that happy stage in respect to the winter.

In Montreal a lovely spring, sunshiny and not too warm, commences definitely in April and sometimes two weeks earlier. The buds and the birds from the south return. St. Patrick's Day parade is often held on a bright, warm 17th of March. Winter night-fires are practically done with. May, June and September are locally considered to be amongst the nicest months of the year. Evenings are warm, but not sultry.

July and August are the hot months, and the driest months. A few days are uncomfortably hot, but not nearly as uncomfortable as hot days further south.

There are flowers and other growing things of the earth in profusion, including the most delicate English roses and an unequalled range of peonies. Famous brands of melons, apples, strawberries and raspberries are grown around the city.

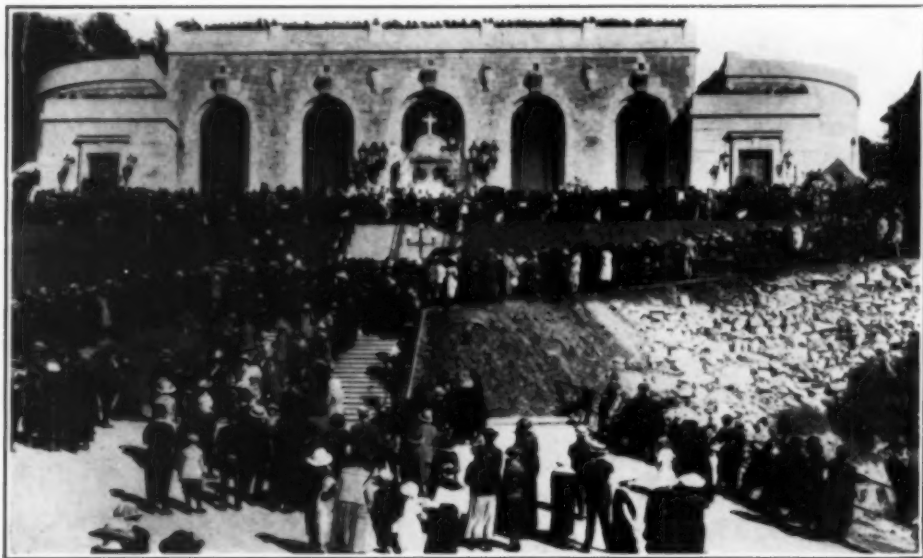
October is a cool, bright month, with the leaves turning to gorgeous colourings and many birds going south. Sparrows, crows and a few other specimens of birds stay all year. The first flurry of snow falls about Hallowe'en but does not remain. The heavy snow does not come till about Christmas. November is fairly cold. Winter coats go on in November and night fires are lighted. The last ship of the season leaves port. In December the St. Lawrence usually freezes over. A below-zero day or two comes in December and



Canadian Pacific Railway photograph.

*Motherhouse of the Order of Sisters of Charity of the Hospital of Montreal, commonly called the Grey Nuns. Care of suffering humanity is the object of this order, founded in 1738 by Madame d'Youville. Fifteen charitable institutions in the city are under the care of the Grey Nuns.*

January, but in January there is a period called the "January thaw" when the warm sun melts a great deal of the snow and the gutters run again with water. Snow is heavy in January. February brings the heaviest snowfalls and the longest spells of zero weather, sometimes for days at a time. The total snowfall for the winter is quite heavy, but trains and tram cars run on time throughout winter, and except for a surfacing of



Canadian Pacific Railway photograph.

*St. Joseph's Oratory, the home of Brother Andre, and famous all over North America for the wonder wrought through intercession.*

snow that is deliberately left the streets and sidewalks are as normal as at any other time of the year. There are no traffic tie-ups such as New York and Philadelphia witness during snowfalls.

The snow is dry, like table salt. It is comparatively easy to control and the

city is equipped to control it. Thousands of tons are dumped into the warm sewers, where it melts and runs off as water. The children fall in the snow and don't catch cold. The snow is seldom damp enough to make snowballs with. The sun shines in winter as well as summer,



*Le Fort des Messieurs, probably the oldest buildings now standing in Montreal. When, in 1677, the Sulpicians started the Indian Mission, they built towers as a means of defence and retreat for themselves and those entrusted to their care. To-day these landmarks on Sherbrooke Street West form part of the Grand Seminary.*



and the sunshine on the snow is beautiful. Sleighs are much in use, sometimes of necessity, often because it is much easier to move loads by sleigh on snow than on wheels at any time. Most wheeled vehicles, including the taxi services, and closed private cars, operate continuously. The proportion of wheeled vehicles to sleighs in winter is higher than 20 to one.

Winter is not dreaded; it is keenly anticipated. Only a few days are really uncomfortable. There is practically no mode in costuming for winter that is different from the costuming of big cities in winter anywhere else. Few men wear fur coats or caps. Many men do not wear coats with high collars. The women continue to wear silk stockings, which is nervy enough on some of the coldest days. Frost-bite is unusual and usually due to negligence. Snowshoes are for sport only. Skating, indoor and outdoor, is amongst the commonest pastimes. Children learn to skate almost as soon as they can walk, and much marvelous skating is seen in games like ice hockey.

Montrealers can build ice castles in winter if they want to, and by way of fun do a lot of interesting costuming that suggests Russia to the uninformed who merely see the photographs; they build skyscrapers in winter, too, and are more out of doors in winter, amusing themselves, than any other people.

The corner newsboys and peanut salesmen do business in the open air all through winter, and the traffic cop simply adds a fur cap to his ordinary winter dress—and is forbidden to pull it over his ears!

There is no oppressively dull, rainy or damp period. The nearest approach to such a thing is the underfoot slush of the "big thaw" for about two weeks on the edge of spring. Then everybody howls about the street-cleaning department.

Affairs of transportation and associated interests extensively affect the destinies of Montreal and pervade its psychologies to an unusual degree. This is to be expected when it is remembered that the city is headquarters of two immense transcontinental railway systems, the Canadian National Railways and the Canadian Pacific Railway Company, — the only railways in North America that can properly be described as transcontinental—and is the head of ocean navigation and the transference point for grain and other exports.

If figures mean anything to you, let it be said that Montreal industries turn over a thousand million dollars every year.

All public schools in city and province are maintained by the general taxation, but they are separate schools in the

sense that there are Catholic and Protestant school boards administering schools for their respective sects, the boards being mainly clerical in make-up. Quebec is the only province in Canada where this condition exists, and where, also, education is not compulsory.

Within recent years acute problems have arisen because of increase in the number of Jewish pupils, who are nominal "Protestants" under the law. Without entering into detail of what is a very involved question, it might fairly be said that both Protestants and Jews



*The latest addition to Montreal's new and ever-changing skyline is the Aldred Building on Place d'Armes.*





*An interior view of one of the buildings of the Canadian National Railways shops at Montreal.*

agree that the system, if not entirely satisfactory to either, is at least as ably and justly managed as it can be under existing laws and the state of public opinion.

There are varying extremes of local opinion about the Quebec Liquor Commission, which controls the sale of liquor on behalf of the Quebec Provincial

Government, and sells all sorts of liquor across the counters of Government stores. A general statement is that the system is acceptable to the people. There is little drunkenness seen on the streets. It is a rare thing to see a woman "under the influence" in public.

A main road is "The King's Highway." The mails are "His Majesty's Mails."



*An exterior view of the Canadian Pacific Railway Company's locomotive and car works known as "Angus shops."*



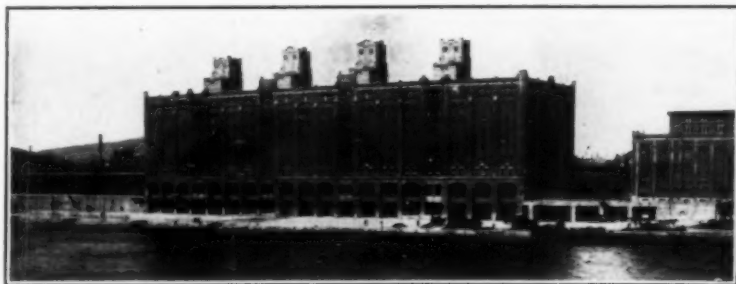
*St. James Roman Catholic Cathedral, modelled after St. Peter's in Rome, but only a quarter of its size.*

"A King's Counsel" pleads before the bar, a "Crown Prosecutor" prosecutes "His Majesty's Judge" judges, the high court is the "Court of King's Bench," where My Lord sits beneath the Royal Arms, with a crucifix on the opposite wall, and where the Crown Crier in his medieval robes closed his medieval announcements with "Vive le Roi."

Policemen are instructed in courtesy and disciplined if discourteous. "Please," "Thank you," "Pardon me," are habitual exchange amongst all classes of people under all sorts of public and private circumstances. Ice hockey, Canadian and English football, and soccer, with baseball next, draw the largest crowds of spectators. Games drawing

the largest numbers of players are ice hockey, baseball, soccer, basketball, golf and tennis. Men raise their hats as a funeral passes. Catholics kneel on the sidewalk as the Host in a religious procession goes by. The old-fashioned bow to a lady is fairly common.

It will be seen from these mere sidelights how elusive a city Montreal is to describe and interpret within the limits of an article, but perhaps from the written word and the complementary illustrations, there can be drawn something of understanding and appreciation of the melodious medley which is at once amongst the strangest and quaintest of great urban harmonies, and the charming song of La Ville de Montreal.



*Canadian Pacific Railway photograph.*

*The largest cold storage plant in the world, above, is situated in Montreal.*

# The Omnipotent Bean

By C. KINNEY

WHO would think that a humble bean could influence the course of a country's progress, and might even become a factor in the economic history of the world? And yet that may be said of the soya bean.

"If it were not for the soya bean," said a Japanese official in the service of the South Manchuria Railway Company, "Manchuria's importance in the Far East would amount to almost nothing."

The soya bean, is unquestionably the most important agricultural product in Manchuria and has played a great part in making that country what it is to-day.

Manchuria is a vast region of some 382,000 square miles and includes three of the most wealthy provinces of China, namely Mukden (Fengtien), Kirin, and Amur (Heilungkiang). The population of these provinces is placed, according to the estimate of the Agricultural Office of the South Manchuria Railway Company, at 29,198,000 (1929 statistics).

Sometimes known as the North-Eastern Provinces of China, Manchuria has a long and most interesting history. To-day it is ruled by a young man, Marshal Chang Hsueh-liang, popularly

known as the Young Marshal, who is progressive and desires to see his provinces developed. One of the many things that he has accomplished is the reorganization of his agricultural board and the founding of agricultural stations in various cities throughout his provinces. Though these stations are by no means large ones where extensive agri-

cultural experiments can be carried out, they prove the interest which he takes in this subject. There are, however, large agricultural stations in Manchuria, founded, financed and oper-

ated by the South Manchuria Railway Company, a Japanese semi-government concern. Here extensive experiments are being carried out, mostly for the benefit of the Chinese, since the agricultural population in Manchuria is practically entirely Chinese.

It may truly be said that the soya bean has played a large part in the development of Manchuria. Unsettled China, with its constant warfare, famine and uncontrolled bandits, leaves much to be desired in the way of safety. Hundreds of thousands of Chinese, especially from North China, have migrated to Manchuria to escape the

C. KINNEY

is an American journalist who has been associated for some years with the South Manchurian Railway, and has made a study of economic conditions in Manchuria.



An aerial view of the Port of Dairen, showing many ships at anchor awaiting their turn for berth space. The city of Dairen is in the background.



*Soya beans in bins at Kaiyuang, one of the produce centres in Manchuria.*



*Bags of soya beans are brought on carts from the interior to the railway stations or marketing places. Due to bandits, Chinese guards are hired to protect the beans from being stolen.*



*Coolies carrying bean cakes from the South Manchuria Railway Company warehouse to the freight steamers.*

conditions which make living almost impossible. These people, mostly farmers, come to Manchuria, settle on fertile though uncultivated lands, and start life over again. The majority grow soya beans, since these are a staple product and an article of world commerce.

The Manchurian climate and soil are especially suited to this crop. Invariably, where other crops fail, due to drought, wind and excessive rains, the soya bean thrives.

The original producing centres are said to be Cochin China and Java. The beans were first grown in China Proper about 4,000 years ago and were used only locally to feed the natives and animals. To-day the chief zones are Manchuria, China, Japan and Korea, but the amount of soya beans produced in Manchuria alone is much greater than the product of the three other countries combined.

The bean was practically unknown to Occidental countries until the year 1908 when a Japanese commercial company

sent a trial shipment to Europe, and so successful was the experiment that the demand became common in Europe. The traders in the Orient were somewhat surprised. How could the insignificant soya bean mean so much to the Europeans when in China it was looked upon as a common food product for labourers and animals? The demand, nevertheless, grew steadily, and the prices were so good that farmers started to cultivate beans, which took less labour and care than other crops.

It is of interest to note that this took place three years after the Russo-Japanese war. Victorious Japan, through the Portsmouth Treaty, became the lessee of the Kwantung Leased Territory, the most southerly point of Manchuria, which consisted of 1,337 square miles, and the greater part of the southern branch of the Chinese Eastern Railway, which to-day is known as the South Manchuria Railway. At about this time the last vestiges of the Chinese ban on immigration of Chinese into Manchuria were removed. Few





*Open storage for soya beans near Dairen wharves. During the busy season, beans are brought down from the interior in large quantities, and are placed in the open storage to await shipment.*

came, however, until about a decade ago, when warfare broke out on a large scale in China proper, and hundreds of thousands of Chinese fled from the famine, war-stricken and bandit-infested areas of that country into the peaceful and undeveloped, yet fertile, provinces of the Manchus.

The mass of Chinese farmers and labourers in Manchuria, hearing of the high prices paid for soya beans, immediately engaged in cultivation of that product. To-day it is said that 70 per cent. of Manchuria's population are working directly or indirectly on its cultivation. There is no doubt in the minds of all that were it not for the soya bean, Manchuria would be an insignificant country. The people might survive, as they do elsewhere, but trade would come to a standstill; in fact, the railroads and large business houses which deal directly or indirectly with the soya bean would meet very hard times. It remains the staple product, where silver may fluctuate. Prices, of course, change

with the demand, but nearly every person in Manchuria, whether he realizes it or not, depends to some degree on the bean.

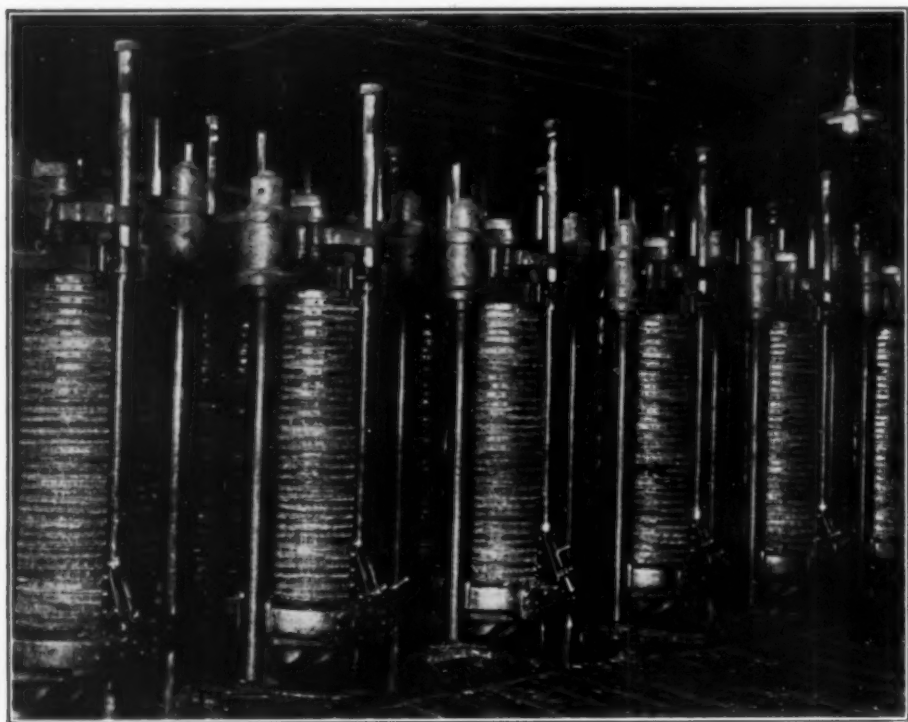
Export to Europe and America increased year after year and various countries experimented with the cultivation of soya beans, but so far production has advanced little above the experimental stage. World production, not including the Orient, is very small, and yet no reliable statistics are available except for the United States.

The origin of bean cultivation in Manchuria is not clearly known, though most of the agricultural experts believe that it was brought from Central China districts. The question as to why it thrives easily in Manchuria while other parts of the world, with similar climatic conditions, fail to get good results, has never been answered fully. Chinese and Japanese agricultural experts are of the opinion that soil similar to that in Manchuria and similar climatic conditions are not found together in great

areas elsewhere in the world. For bean cultivation, loamy clay, clay, loam and sandy loam are best suited in the order named. While the relation between bean cultivation and the soil constituents is not yet clear, it, like other species of leguminous plants, appears to get the nitrogen needed for its growth principally through symbiotic action with *bacillus radicicola*, and very little thereof is directly absorbed from the soil. For this reason the amount of nitrogen con-

are plentiful, chemically speaking Manchurian soil may be regarded as suitable for soya bean cultivation.

Much fertile land remains undeveloped in Manchuria and these areas will stay uncultivated until the Chinese build railroads and roads. During the past few years, however, the Manchurian officials decided that means of transportation and the construction of additional railways into the interior to open up the vast acreage of fertile though uncultiv-



*Interior of a soya bean mill. Presses, or oil compressors, crush the beans, which have first been heated, and oil is extracted. The crude oil is pumped into a large vat where the impurities are removed.*

tained in the soil is not so important in this case as it is with other species of plants. A soil possessed of the qualities suited for the propagation of *bacillus radicicola* is regarded as more desirable.

Manchurian soil, however, is cohesive, and usually after a rain it turns to a heavy clay. It can hardly be called physically excellent. As far as its chemical constituents are concerned, a great shortage of organic matter is noticed, but since the mineral contents

ated lands were essential to the development of the North-eastern provinces; but due to lack of capital, little headway has been made. There is no doubt that as soon as funds can be obtained, either from loans or taxes, the Chinese officials will build several new lines. Already numerous plans are being mapped out for additional and branch lines, and many of the proposed routes have been surveyed. One new line has already been started that will reach fertile lands,

and work has also been begun on small branches from the main lines. Road construction at the main bean centres has been little developed, and although plans exist, nothing much has been done in this matter yet.

Manchuria's future bean export trade depends entirely on peace and honest business dealings. It remained neutral while the rest of China was torn by warfare, and though affected by the business depression which hit the entire world, Manchuria did not suffer as greatly as did the rest of China. Busi-

ness is moving slowly, due not only to the depression but also to the drop in silver. Yet with these great drawbacks, Manchurian business men are optimistic, and although soya bean transactions have not been large this season, the farmers are still raising crops; new-comers are opening up uncultivated lands; bean mills are placing orders for up-to-date machinery; grain elevators have been installed at the Dairen wharves; and new and large cargo boats are being built.

Still, one improvement must be made and made quickly if the Manchurian dealers expect to sell soya beans to Occidental countries, and that is the matter of selecting the best beans. European buyers have been constantly complaining that soil, poor quality beans and even large size stones have been found mixed with Grade One beans. They have become rather sceptical of Manchurian beans, and it is known that a number of these companies are replacing them with cotton seed or linseed for their plants.



*Dumping soya beans into mat bins, North Manchuria.*

ness is moving slowly, due not only to the depression but also to the drop in silver. Yet with these great drawbacks, Manchurian business men are optimistic, and although soya bean transactions have not been large this season, the farmers are still raising crops; new-comers are opening up uncultivated lands; bean mills are placing orders for up-to-date machinery; grain elevators have been installed at the Dairen wharves; and new and large cargo boats are being built.

With all this development, Manchuria's future looks bright. Peace within these provinces is almost a cer-

An association was formed in 1930 through which inspectors are placed at the centres to see that soya beans are graded correctly. This will no doubt help to bring the European and other buyers back to purchasing in Manchuria, as the soya bean is much cheaper than either cotton seed or linseed. If there be little or no trouble in this respect this season (1930-1931), the trade will grow tremendously.

No improvement was made on the soya bean until after the Russo-Japanese war, when the Japanese founded the Agricultural and Experimental Station at Kungchuling. Here this, as well



*Due to civil warfare, bandits, high taxation and famine, hundreds of thousands of Chinese immigrants have migrated to peaceful Manchuria. Most of the newcomers are farmers and the majority of them cultivate soya beans.*

as other agricultural products, were tested and after a few years the Japanese experts were able to place before the farmers a larger bean with a much greater oil content. Thus with a better product prices went up, and to-day practically the majority of the cultivators come to the Japanese experts for advice or material.

The Russians have also founded several bean stations where material and advice can be obtained by the farmers.

The Chinese in the past depended entirely on Japanese and Russian data, but recently several Chinese agricultural stations have sprung up, and although they are not to be compared with the Kungchuling Station, they show that much interest in this phase has been taken by the Chinese.

The Central Laboratory, a scientific institution established by the South Manchuria Railway Company, located at Dairen, the largest bean export port



*A section of the Kungchuling Agricultural Experimental Station, the largest in Manchuria. For years this organization has experimented on the bean and has succeeded in giving the world a larger and better oil producing bean. This station was established and is still financed by the South Manchuria Railway Company, for the betterment of agricultural products in Manchuria.*

in Manchuria, has through scientific experiments discovered many purposes for which the soya bean may be used. Here one sees the planted bean, with data regarding the soil, etc. Next one sees the various grades, large and well made pictures show the picking of beans by Chinese labourers, the cartage from interior centres to river ports or railway stations, the loading into the cars. These are photographs. Next one is shown to another room, an actual bean mill, although very small in comparison with the commercial mills. The mill at the Central Laboratory is of the

confectionery, sauce making material, are some of the edibles that can be obtained.

Bean oil can be used as food, a source of light and for lubricating purposes. The oil is manufactured into refined bean oil, salad oil, a substitute for lard and tallow, a substitute for butter (oleomargarine), soap, glycerine, fatty acid, water paint, a substitute for India rubber, a substitute for kerosene, hydrogenated oil and paint materials.

Bean cake can be used as a fertilizer and as cattle food, it can also be manufactured into protein products, as raw



*Primitive method of sorting soya beans.*

latest design, employing a process known as "extracting bean oil through alcoholic method." This in itself is an experiment, for there is not a commercial mill to-day that employs the alcohol process. The Japanese authorities are attempting to devise a way in which this latest designed mill can be worked on an economical and paying basis. At this model mill crude oil is extracted, though it can be refined at the laboratory.

The soya bean has many uses. It can be used as food, cattle feed, fertilizer and for oil. Cooked beans, malt, bean curd, bean milk, soy, bean powder,

material for paper, and as a substitute for celluloid.

The constituents of beans vary more or less according to places of origin, kinds, and years in which they are grown, but the average obtained from the various classes by the South Manchuria Railway Company's agricultural experts may be placed as follows:— water content 8.5 per cent.; crude fat 18 per cent.; crude protein 40 per cent.; nitrogen free extract and crude fibre 28 per cent. and ash 5.5. per cent. From the above, it can be seen that soya beans make an excellent article of food, containing much

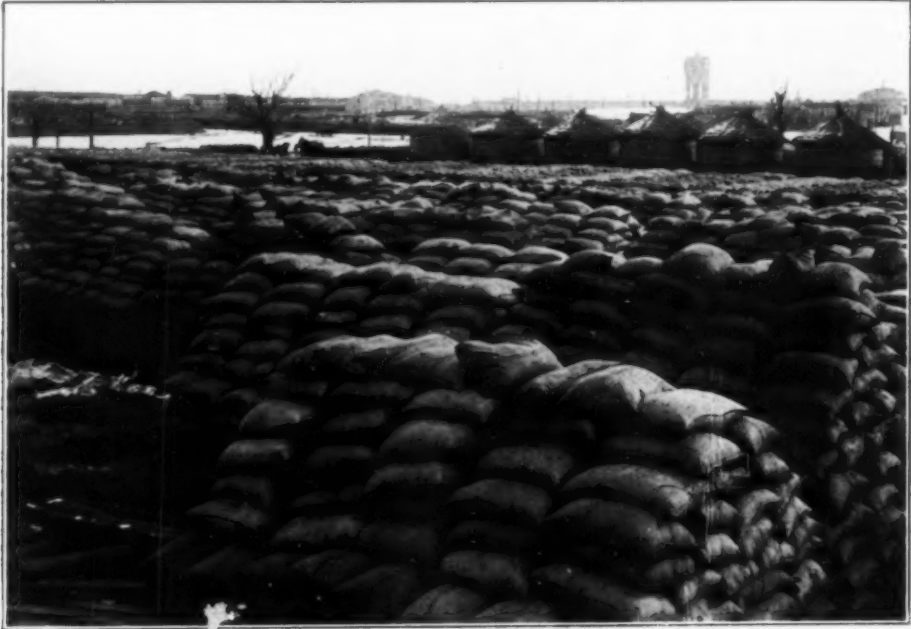




*Oil tanks where soya bean oil is placed prior to shipment. Over 1,000 tons of oil are manufactured annually by the various bean oil mills in Manchuria.*



*Hoisting bags of soya beans from Dairen wharves into the holds of the ships.*



*Soya beans in storage, awaiting shipment at Ssupingkai station, one of the produce centres in Manchuria.*



*Modern railway tank cars bring bean oil to the wharves where it is deposited into large sea-going oil tankers.*



*Unloading soya beans at Dairen wharves. The bags of beans are brought from the interior of Manchuria to Dairen, the largest port in Manchuria, the beans are then transported by steamers to various parts of the world.*

protein and fat that have the most important relation to nutrition. Soya beans in fact contain more protein than any other cereal. In Europe and America they are being experimented with in various ways in order to prepare new kinds of food. Already confections, bread, milk, bean powder and bean residue are in the market.

In Manchuria alone there are to-day 465 soya bean mills for the extraction of oil and the making of bean cakes. Of these mills, the majority are native or old fashioned mills, while the latest and most up-to-date are in most cases owned and operated by Japanese. Oil mills, however, are declining as the outside markets prefer to buy the beans direct and manufacture them in their own mills. The following shows where the mills are located and the number in each district:—

Dairen, 59; Yingkou, 22; Antung, 21; Harbin, 46; Along the South Manchuria Railway Line, 252; Along the Chinese Eastern Railway Line, 28; Along the Ssupingkai-Taonan-Anganchi Line, 37.

The latest statistics gathered by the South Manchuria Railway Company,

for the year 1929, show that:—10,065,370 acres of land in Manchuria were planted to soya beans; 5,320,555 tons of soya beans were produced in Manchuria during 1929; 3,087,320 tons of soya beans, 133,854 tons of soya bean oil, and 1,568,552 tons of soya bean cakes were exported during 1929.

In conclusion, the writer has been informed by experts in Manchuria that as soon as the business depression that is sweeping the entire world is over, soya beans will be in great demand both in Europe and America. Already American and Canadian experts have visited Manchuria for the purpose of studying their growth, care, etc., with the idea of introducing them into their respective countries. In Europe steps have also been taken for the cultivation of beans, but only on a very small scale. Plans are being considered for raising them in Siberia, in territory just north and east of Manchuria. The soil in Siberia, experts claim, is good for beans, so the real threat, if any, to Manchurian beans will probably come from Soviet Russia.

# The Royal Mint and Its Branches

By J. H. CAMPBELL

**I**N THE course of Man's Adventure on the Earth a prominent place, since the dawn of civilization, has been held by gold, perhaps the least intrinsically valuable of all metals known to the ancients. Even to-day its use in the arts, outside of coinage, is practically confined to jewellery, and of the commonly occurring metals it is the one whose disappearance would least affect us otherwise than aesthetically and yet its glamour, and the urge to possess it, have had a remarkable influence on the history of the race.

Its very name, in the earliest literature as in our own everyday talk, is the symbol of perfection, a symbolism consequent on our ancestors' belief in the magic qualities of the metal. The researches of the alchemist, to whom the modern chemist must look as the founder of his science, were directed to producing gold from baser metals, and the geographer must acknowledge his overwhelming indebtedness to the prospectors, from those whose megalithic monuments still mark the sites of ancient workings, through the 16th century seekers of El Dorado, down to their representatives of to-day who, with modern equipment but animated by the same, spirit still blaze the trail in Canada.

On this close connection through the ages between the search for gold and the advance of geographical knowledge is based a claim for the relevance of this article to the objects of the Canadian Geographical Journal.

With the evolution of traffic between individuals and peoples gold, valued at first for its magical, or, as Professor Elliot Smith prefers to call them, its life-giving, qualities, began in time to assume a quite distinct importance as a

medium of exchange, a function shared with silver as its ever present associate. At first it passed current by weight, but about the year 700 B.C. we find the first known coin, a bean-shaped piece of electrum, a natural alloy of gold and silver, having a countersunk device on one face only, and struck probably in Lydia. Since then coinage has been continuous, and has a most interesting history whether viewed from the standpoint of the artist, the politician, or the economist.

The date of the first British coin is tentatively placed in the 2nd century B.C. It was an imitation of the gold stater of Philip II of Macedon, but was evidently copied from a copy of that beautiful coin, each copy being more degraded than the preceding. Later coins appear bearing the inscriptions of British chieftains, and these in turn were succeeded by Roman coins, at first imported, but coined at local mints from the 3rd century A.D.

The history of the Royal Mint in London begins in Anglo-Saxon times, but coinage was not then confined to one place, nor did the sov-

ereign insist too strongly on the right of coining which, according to the Civil Law maxim is "inherent in the bones of princes," for we find the Archbishop of Canterbury and other ecclesiastical dignitaries issuing their own coins alongside those of the King. Indeed for many years after coinage became fully recognized as a prerogative of the Crown we find the management of the Mints, as of other departments of Government, largely controlled by ecclesiastics, perhaps because they alone, as a class, had the necessary education.

As late as 1548, according to Ruding, Bishop Latimer, in a sermon at St. Paul's inveighed against bishops and other



J. H. CAMPBELL

was born in 1866, at Strabane, Northern Ireland; and appointed to Branch of Royal Mint, Sydney, N.S.W., 1884, becoming Deputy Master 1921; he was transferred to Ottawa Branch 1926. Mr. Campbell was Hon. Treasurer, Linnean Society of New South Wales 1908-1926; President Royal Zoological Society of New South Wales, 1923. Member of Order of British Empire, 1919; Imperial Service Order, 1929.



Barratt's photograph.

*The Royal Mint, Tower Hill, London. For many centuries the Mint had been within the precincts of the Tower of London. It was removed in 1810 to new buildings, designed by Sir Thomas Smirke, erected on the site of the Government Tobacco Warehouses.*

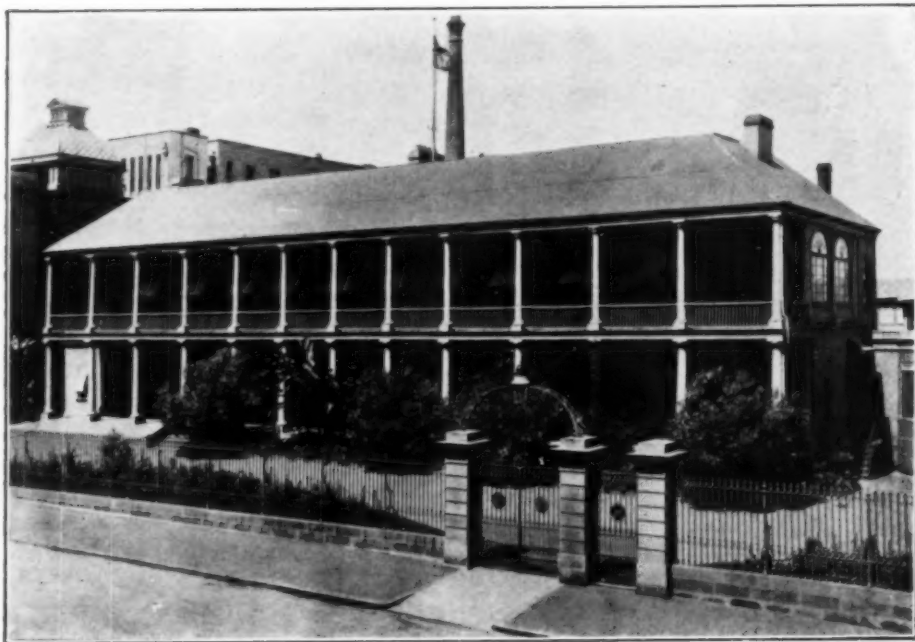
churchmen occupying stations in the Mint. "They are," he said of them, "otherwise occupied . . . some comptrollers of myntes. Well, well, . . . I would fayne knowe who comptrolleth the devill at home at his parishe, while he comptrolleth the mynte? . . . The saying is that since priests have been mynters money hath been worse than it was before. And they say that the evilnesse of money hath made al things dearer". It may be fitting at this point to offer the assurance that the present high cost of living is not due to Church interference in matters of coinage.

The main building of the Royal Mint in London was erected in 1810, but since then many alterations and additions have been made in order to cope with the continuous expansion in operations. With increasing population and trade there has been increasing demand for coin, not only for Britain itself, but for its many dependencies, and in addition to these Imperial and Colonial coinages, contracts for the supply of coin to other

countries are frequently accepted. A most interesting part of the work of the Mint consists in the manufacture of medals and it is pleasing to see that the medallic art, long neglected in England, is of late receiving the attention to which it is entitled as well by the permanence as by the beauty of this mode of expression. The Mint is also charged with the important work of producing the plates from which the many postage and revenue stamps used in Great Britain are printed.

The Chancellor of the Exchequer is "ex-officio" the Master of the Mint, the Deputy Master and Comptroller being the permanent chief executive officer, final control being exercised by the Lords Commissioners of His Majesty's Treasury. The Branch Mints are each under a Deputy Master, responsible to the Master of the Mint, and their staffs are, as regards appointment, salary, and discipline, under the same Treasury control as the principal Mint, and are interchangeable throughout the Empire.





*The Royal Mint, Sydney, N.S.W. (1855-1926). The administrative offices and Deputy Master's quarters, here illustrated, were built by Governor Macquarie in 1814 as the southern wing of the hospital, an institution generally known as the "Rum Hospital," the terms of the contract for its erection providing for payment being made in rum, one of the forms of currency then used in New South Wales.*

On the other hand the Treasury accepts no financial responsibility in regard to these establishments, all salaries and expenses being met from a statutory annuity provided by the Government of the respective countries in which they operate, and to these Governments are paid all profits made, or charges collected, by the several branches.

Each branch strikes such coins, Canadian, Australian, or South African, as may be authorized for circulation in its particular country, and has in addition the right to strike, when required, British gold coin, which is current as legal tender throughout the Empire. It is the possession of this right of British gold coinage which furnishes the reason for the extension of the Imperial Mint Service, instead of the seemingly simpler policy of each country having a Mint in all respects under its own immediate control. The sovereign, the principal Imperial gold coin, for long had a currency far beyond that appertaining to it by law, and so highly was it regarded in every country, that it almost seemed as

if the magical powers formerly attributed to the metal were now exercised by the coin. It is worth one pound sterling, and weighs 123.274 grains of British standard gold, thus containing 113.001 grains fine gold.

The first Branch of the Royal Mint to be established outside the United Kingdom was that in Sydney, Australia, opened in 1855 and closed in 1926. Previous to the discovery of gold in quantity in Australia, in the middle of last century, the currency of the Island Continent was in no better plight than the currencies of other parts of the Empire which had to import their coins, and gold was changing hands at a discount of as high as 20 per cent. on its actual value. The Sydney Mint was authorized to coin sovereigns and half-sovereigns of a special design, and the immediate result of its opening was to stabilize exchange, and of course to fix the local price of gold. In 1870 the distinctive designs of the gold coins were discontinued, and since then sovereigns issued by the branch Mints have been the same, with the



Dept. Trade and Commerce photograph.

*The Royal Mint, Ottawa, completed in 1907, and opened January 2nd, 1908.*

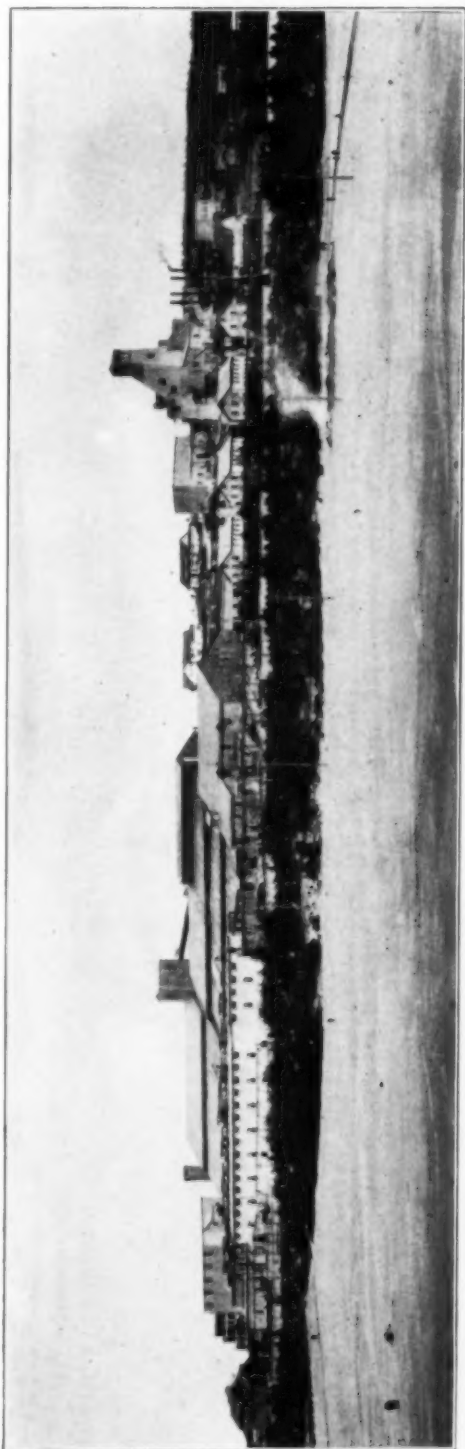
exception of a small "Mint Mark", as those issued in London. Branches were subsequently established in Melbourne (1872), Perth (1899), Ottawa (1908), and Pretoria (1923), the four last mentioned being still in operation.

The establishment of a Mint in Canada first received a measure of public attention in 1898, and for reasons similar to those which determined the opening of a Branch in Sydney. British Columbia was then approaching its zenith as a gold producing country, and at the same time the gold from the rich Yukon deposits was coming into that province, but there were no local means of turning it into cash, except at a considerable discount, and it was all finding its way to the United States Mint. When the subject received serious official consideration in Ottawa it was thought that Canada might inaugurate its own gold coinage, and at the same time be in a position to strike Canadian silver and bronze coinage which up till then had been obtained in England under contract. It was soon realized that only by having authority to coin the sovereign, that is by having a branch of the Royal Mint, could all the gold be coined into an economically exchangeable medium, and steps were accordingly taken to have a Mint on the lines of those in Australia.

Between the time of this decision and the opening of the Ottawa Branch Mint

on the January 2nd, 1908, there had been a marked change in conditions. The output of gold in western Canada had greatly decreased, and there was then no anticipation of the subsequent great mining development in Ontario, and consequently but scant provision was made in the new Mint for the refining of gold, which, as distinguished from coining gold, has since become one of its most important duties, though not, in the stricter sense, a Mint function. The primary object of a Mint is to produce coin, but in Canada, as in Australia, the Mint has been called upon to perform in this regard certain work devolving in older countries on non-governmental refineries. On the other hand very little of this gold has been turned into coin, the total gold coinage being only £627,834 in sovereigns and \$4,868,420 in Canadian coin. As against these comparatively small figures Canadian gold bullion to the value of \$218,124,152, has been received for refining up to the end of April, 1931, this being exclusive of over 350 million dollars' worth of gold specially handled during the war.

The Mint in Ottawa was not the first to be established on what a'terwards became Canadian territory. The discovery of gold on the Fraser River in 1858, and especially in 1861 in the Cariboo Country brought about in British Columbia the usual situation of an excess of

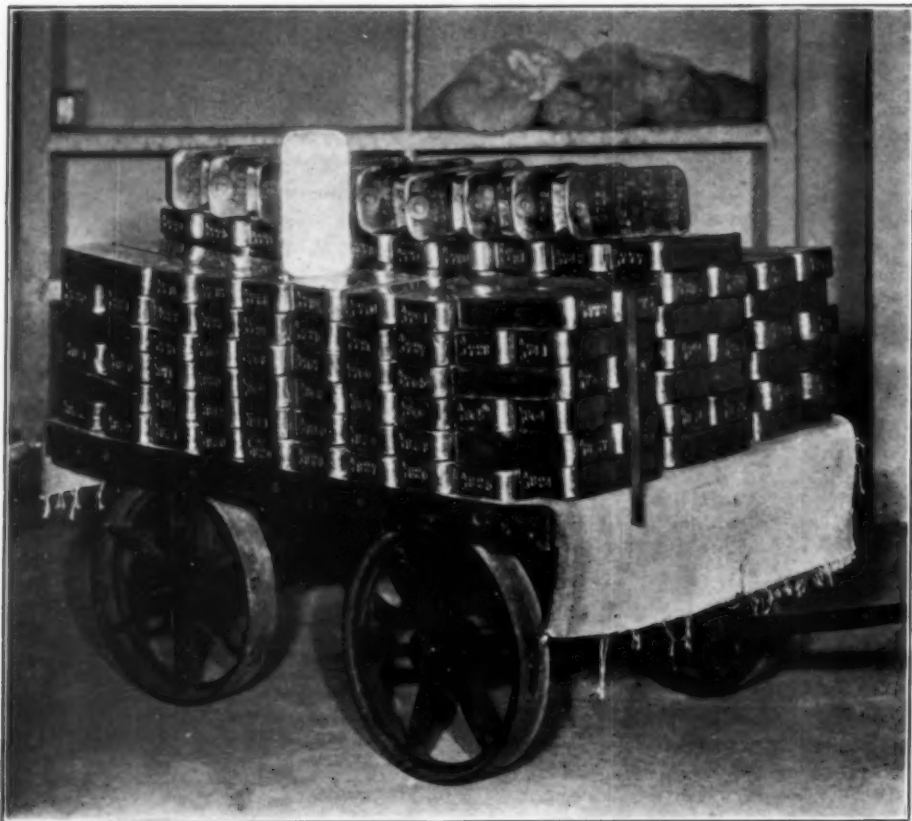


*Surface works of the Hollinger Consolidated Gold Mines, Ltd., the largest gold producer in Canada, situated at Timmins in the Porcupine area, Ontario.*

gold accompanied by a scarcity of actual currency, and to relieve this a Government Assay Office was established at New Westminster in 1860, and the Governor decided in 1861 to use it as a Mint, the consent of the Colonial Office having been obtained. Dies were manufactured in San Francisco and in 1862 the first coins, \$20 and \$10 pieces were struck, but the scheme was shortlived, amongst the reasons assigned for its abandonment being the demand of the Assay Office staff for pay on the Mint scale (the pay of assayers must have been woefully small in those days!), and a certain jealousy between Vancouver Island and British Columbia. At present only seven \$20 pieces and four \$10 pieces are known to be in existence. One of the former was sold by Sotheby's in 1911 for 200 guineas (\$1,022).

Gold is found throughout Canada, but the main centres of production are the Porcupine and Kirkland Lake fields in Ontario, and the story now to be told is that of the metal from its coming to the surface finely disseminated throughout the ore, till it rests in the Mint vaults as practically pure blocks. These blocks, properly known as "ingots" or "bars", are roughly the size of a brick, weight about 37 pounds avoirdupois each (nearly 550 ounces troy) and are worth between \$10,000 and \$11,000. To produce one of them requires, in one of our principal mines, enough ore completely to load a train consisting of 80 freight cars each of 20 tons capacity, this illustration conveying some idea of the efficiency of the metallurgical processes by which the gold is recovered from its matrix.

These processes, while varying in detail, have as common features the reduction of the ore to a fine powder, the treatment of this powder with a liquid, generally a solution of sodium cyanide, which dissolves out the gold, the precipitation of the gold from solution by means of zinc, and the melting of the precipitate with proper fluxes



*A truckload of gold bars awaiting delivery to the Treasury vaults. There are 200 ingots of fine gold weighing in all 7,400 pounds avoirdupois, and valued at \$2,000,000. This stack of bullion represents about three weeks' output of Canadian mines.*

into ingots or bars, the form of which the mine markets its product. The composition of these ingots (crude, rough, or unrefined gold) varies according to the material of the original ore, the method of recovery, and the bullion refining process, if any, in use at the mine, a general average of Canadian rough gold received in one year at the Ottawa Mint showing a tenor of  $77\frac{1}{2}$  per cent. gold,  $12\frac{1}{2}$  per cent. silver, and 10 per cent. base metal.

Having his gold, once so widely scattered through the ore, now in the form of bars, containing in addition silver and some other, metallurgically less desirable, metals, the Mine Manager proceeds to turn his bars into the equivalent of cash, wherewith to pay his salaries, wages, and general expenses, and, with

anything left over, to provide dividends for the shareholders whose capital, in whatever way contributed, made the enterprise possible. In practice he must take one of two courses, consignment to the Ottawa Mint, or to the New York Assay Office or other branch of the United States Mint, and which he adopts will depend on where he gets what he considers the better return. The difference in actual charges is negligible, the main factors governing his decision being the cost of transport, and the rate of exchange.

Having decided on realization in Canada he forwards his bullion, packed in boxes, by express to the Mint, where the weight is carefully checked and the bullion melted, this operation being conducted with great care to ensure that





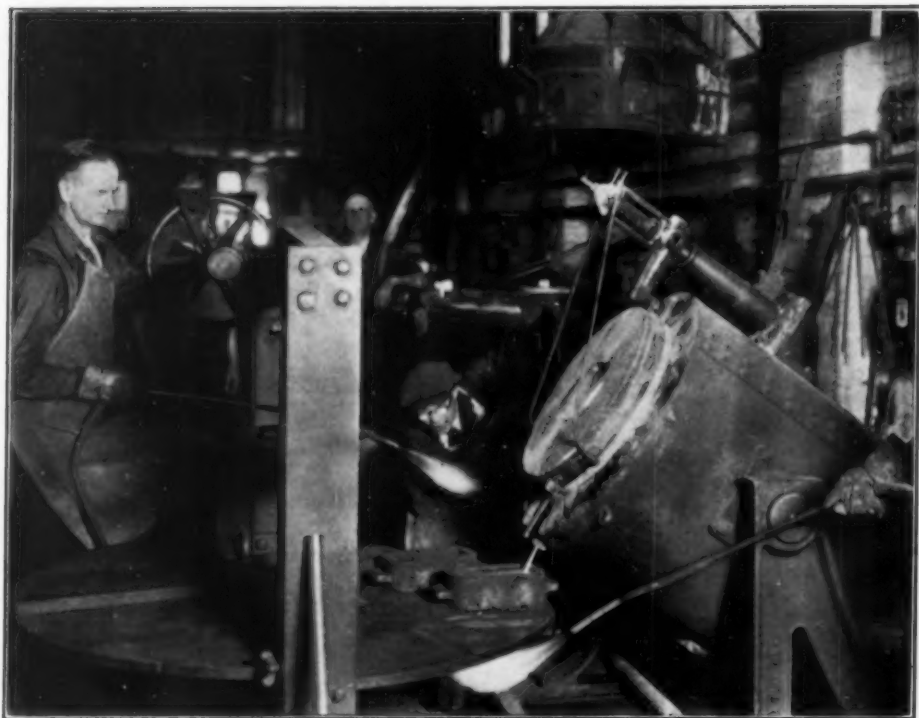
*Gold bullion ready for consignment to the Mint from the Hollinger mines. The bars weigh over 100 pounds each.*

the composition of the resulting ingots is uniform throughout, in order that there may be no doubt of the small pieces taken for assay representing the true content of the whole mass. The assay process is a very refined chemical operation, by which the amount of gold present in an ingot weighing, say, 1,000 ounces can be determined within one ten-thousandth part. Simultaneously with the gold assay the proportion of silver present is determined, and with this information the value of the bullion, whose weight after melting has been carefully determined, can be calculated in Canadian dollars and cents, and a cheque for the amount, less Mint charges, forwarded to the depositor. The value of fine gold is one dollar for each 23.22 grains, equivalent to a value of \$20.671834 the ounce troy.

The Mint now has a number of bars, duly paid for, of various weights, and containing varying proportions of gold, silver, and other metals, and it is here the refiner steps in, his job being to separate the valuable metals and to eliminate

those which cannot be profitably recovered. The principal process used in Ottawa is the Miller chlorine process, in which chlorine gas is passed through the mass of molten rough gold, forming with much of the base metals volatile chlorides which pass into the flue, and with the silver a layer of silver chloride which floats on top of the gold. The gold is not attacked by the chlorine until the other metals present separate out, and remains in the crucible at last free from its former companions, with the exception of a small amount of silver, about 3-10 of one per cent., which cannot be economically recovered by this system of refining. The fine gold is passed to a large furnace capable of holding over \$100,000 worth, where it is very thoroughly stirred, and then poured into "trade bars." The value of each of these is accurately determined, and on each bar is stamped the Mint Mark, number, weight, assay and value, and it is then ready to take its place in the settlement of Canada's foreign exchange, or to lie in the Finance Department vaults as





*Pouring fine gold from an oil-heated tilting furnace into moulds, each charge making ten of the bars shown on page 63, or over \$100,000 worth of gold.*

tangible evidence that the Dominion can meet its obligation to holders of its notes, or to depositors in its Savings Bank.

A description of the technical operations of coinage, the real business of the Mint, does not come within the scope of this article. Requisitions for such coins as may be needed to keep the monetary circulation in a satisfactory condition are made by the Comptroller of Currency, and the coin is packed at the Mint and despatched to distributing centres throughout the Dominion. Members of

the Canadian Geographical Society will at all times be welcomed as visitors, and will have explained to them the process through which the metal passes from ingot to finished coin, their membership of so respectable a Society being accepted as a warrant that they will not use for private gain the knowledge thus acquired but that, paying heed to the pains and penalties attaching to the exercise by a subject of the Royal Prerogative, they will "govern themselves accordingly."



# Fishing for Albacore

By HELEN CREIGHTON

**L**ITTLE Nova Scotia for all its brevity, is the province of romance and thrills. Just take, for instance, the fishing of albacore, practically all of which is concentrated in the waters of St. Margaret's Bay. Here you may see an eager angler from Texas with a 700 pound fish struggling on the end of his line, a line some 1,500 feet in length and very strong.

See him while he plays his fish, his mind ever conjuring visions of the tales he will tell of his catch outweighing that of the novelist, Zane Grey, who had landed one nearly that large at Shelburne. But alas, to complete a truthful story, the Texan was doomed to disappointment. Just when victory seemed assured the wily fish made an unexpected last effort, tied the line under the boat where it caught in a steel rudder, and so won its way to freedom. But what a fight. And how long it lasted. Three and one-half hours in all. Catching a 10 pound salmon must be an infant's task beside this. Thus, according to Mr. A. W. Whatford of Hubbards, this is the "lion fishing of the sea".

Unfortunately fishing in this way is the exception rather than the rule, for the professional has little time to spend with hook and line. Nevertheless as an industry he finds thrills aplenty, as subsequent events will show.

St. Margaret's Bay is situated a few miles to the west of Halifax Harbour, and with its blue waters and countless islands it is as beautiful a spot as any in picturesque Nova Scotia. Fishing is always good here and albacore are plentiful, but for many years this fish, now sought so eagerly, was considered but a nuisance. It got into traps set for mackerel where it tore giant holes in the nets. Nobody thought of serving it at table until 1903 when the Italian popula-

tion of Boston cried loudly for "da bigga da fish," a favourite in his homeland.

In a twinkling the prestige of the albacore underwent a startling revision, and three firms changed their whole system of fishing in order to export them. They say that no other firms on the Atlantic coast make the business of it they do, for the fish school here in larger quantities than anywhere else on the continent.

They have also discovered that albacore can make a very succulent dish if par-boiled before being cooked, when its taste becomes a cross between tender steak and mackerel.

By now you are perhaps mystified. Albacore is a new word to you. Mayhap you would know the fish better as tuna, and it is quite possible that a "chicken" sandwich you have enjoyed was a tuna with another name. For as a local authority says,

"It is albacore in Nova Scotia, horse mackerel on the Boston market, and tuna when canned. In its final state it is very like chicken and is frequently used in its place."

To the good fortune of the professional, a change of catch did not mean a great outlay for new materials. His mackerel trap needed no readjustment to catch albacore, and he already possessed the sweep, or second net, which he put down upon arrival at the fishing grounds. All that was necessary was to make a very strong rope net called a "spiller." One shown to me was said to be the largest spiller in the world, knitted with needles  $2\frac{1}{2}$  feet long.

This particular system is known as trapping, and often results in 25 or 35 albacore being taken in a day. Frequently more fish are in the net, but they are not taken out as the market is not large enough to purchase them. The season runs from June to November,



HELEN CREIGHTON

who was educated at Halifax Ladies' College, has been engaged in free-lance writing for some years. Since 1929 she had been seeking and collecting ballads and folk songs in Nova Scotia, and interesting tales of the sea that singers tell. The material for this article was found while rambling along the pleasant shores of St. Margaret's Bay.



Dept. Natural Resources photograph.

*How tiny the little cod looks. Time was when I thought him a mighty fish, but in contrast he is quite insignificant beside the lordly tuna. This is a very typical scene. It might be anywhere along the coast.*

during which time each firm exports some 500 fish. The weight of a single fish may run as high as 750 pounds, although 500 pounds is considered a good weight. One of the longest fish caught measured 10 feet from the tip of the nose to the end of the tail. The same fish is caught on the Pacific coast, but is a midget in comparison, weighing only from 30 to 80 pounds.

There are three ways of catching albacore,—by trap, harpoon, and hook and line. The tourist, lured to the wharves by the sight of huge heads lying inert and goggle-eyed, is filled with unbounded curiosity. Personally the sight merely whetted my appetite for adventure, and the next day saw me going with the Coolens to empty their traps of their catch.

To reach the fishing grounds we clambered into dories and rowed to a huge motor boat. Here the dories were tied together and we were towed to the open sea. They swung behind the launch like the long tail of a giant sea beast, some of the boats carrying men,

others nets. In a few moments our objective was reached and the onlookers invited to a seat on top of the motor boat's cabin, a sort of private gallery from which we could watch the excitement without in any way endangering ourselves or being in the fisherman's way. Passing tourists are frequently entertained in this way, for the fishermen love to share their thrills.

The hosts of the day were all men of one family—nine hardy Coolens, "from England," as old Al Coolen said, "a Scotch Irish family, the worst combination in the world." Although the oldest of the clan and the official joker, Al is not the leader. A younger man, Fred, takes charge, but strangely in the whole afternoon we heard no order given. Yet it is Al who keeps them amused, for his ready tongue sparkles with Irish wit. Age merits no place of ease in the strenuous work required. In fact Al seemed to work harder than any of them.

Work began by setting the sweep within the trap already placed. An early morning scout had reported three



Canadian Gov't Motion Picture Bureau photograph.

*Here is an excellent view of the "spiller" when finally drawn up by the fishermen. The scene is so peaceful that it does not give any idea of the great struggle that has gone before. To appreciate the thrill of it and the danger to the men, keep this picture before you as you read. Pity the poor man who tumbled into the water while the albacore were in the last moments of their vigorous fight for life.*

tuna captured, otherwise the expedition would not have gone out. Now as some set the net, others covered their heads with their coats and peered into the fifty feet of water to see if more tuna had come.

It was slow business getting the nets in place, for after the sweep was down the spiller had to be set. This fits inside the other two.

"Like a box", Al explained, "with one side left open." When this is placed and the fish swim inside the box the net is closed, and then it is gradually drawn in until the fish are forced to within a few feet of the motor boat.

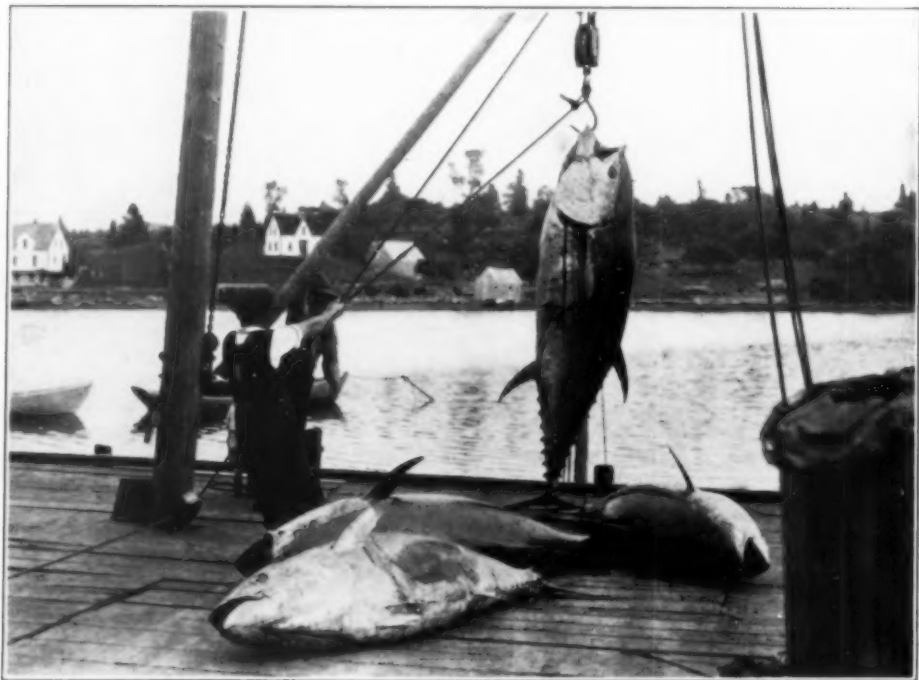
"Fishermen are patient people," said old Al as an hour passed and the nets were only then in place. With mittened hand he stood in the stern of a boat and held a ready grip on a long, tethered rope. The other men, scorning mittens,

stood by, poised for the emergency. From our vantage point we searched the waters. For fifteen minutes we sat breathlessly with expectant eyes. For half an hour we sat. For twice half an hour we still sat, but nobody uttered complaint. The restraint was almost unbearable. Then suddenly the cry came.

"Haul 'em in! Haul 'em in!" and the albacore swam close to the motor boat.

Like a flash the nets were closed, but not quite soon enough. As though suspicious of disaster the fish swam out again but not to stay. In a few moments the cry was again repeated.

"Draw them in!", and the nets were pulled into place. With a happy sigh we realized that the moment was actually at hand and we watched breathlessly. One by one the fishermen joined Al's boat and slowly drew in their net, or



Canadian Gov't Motion Picture Bureau photograph.

*It was the sight of a dozen or so of these fish upon the Coolins' wharf which first interested me in tuna fishing. As we walked wonderingly along the pier where huge coffin-like boxes were waiting for their cargo we asked, "What are they?" "Whales?" and the men laughed and said to themselves, "More ignorant tourists," I suppose.*



Dept. Natural Resources photograph.

*The scene of albacore fishing is one of the most beautiful in Nova Scotia, for St. Margaret's Bay is dotted with small islands like the above.*





Dept. Natural Resources photograph.

*Slowly and with infinite patience the fisherman completes his tasks and begins anew the never-ending mending of his nets. Occasionally a car passes, and if its occupants stop and descend he chats amiably with them, working all the while.*



Canadian Gov't Motion Picture Bureau photograph.

*The lad on the right does not seem to appreciate his honour. A tourist's child perhaps, for the fishermen's sons love to play with these great lions of the sea.*



Canadian Gov't Motion Picture Bureau photograph.

*Peace, and an easy victory. Perhaps, but this is the end of the story. What went before? Did the harpooner's thrust go home at his first throw? How far did the albacore swim? Did he lead his captors to the open sea? Did he get lost for a while in the fog? It looks so easy and simple in the picture unless one has learned that victories do not come without a little struggle at least.*

spiller. At this time they were about 100 feet from the motor boat, and as they drew the net up we saw the albacore faintly first, and then as their sphere of action became more limited their bodies became more clearly visible.

"I hope they splash a lot," said Al's little grandson, and we stood with cameras ready. Rather should I say we reclined, for it was unsteady business to stand. Instead we lay flat upon the cabin's top, and as the sea tossed in the ocean's strange sequence of three great waves we literally stood upon our heads, our feet holding on to the other side of the cabin for support.

Nearer and nearer to the launch came the struggling albacore, and then one arose, raised an angry head and flashed his tail in scorn. Then his whole bulk arose, and suddenly as they got close enough to the boat to be touched by a gaff, the sun caught the underside of an upturned albacore. It was as though a brilliant silver light had been thrown

up to us, dazzling in its beauty. It lasted a moment and was gone, and then the aesthetic became further entranced by the deep blue shades upon their backs as the sun touched them in the water. Flecked with a mottled indigo, they were further beautified by a regal purple stripe running from head to tail. From the centre of the fish down both sides to the tail tiny yellow fins like half butterflies twitched restlessly in a last vain effort for freedom.

"You ought to see them when they make water fire," said Al. "We often fish at night because we can see them better. Making 'water fire'. What a striking synonym for phosphorescence!"

Poised in the bow of the dory that contained the spiller, a younger Coolen stood with pick axe ready. When the first fish swam towards him he raised this in the air and smote it upon its head. Immediately the water all about him became a seething mass, screening the men from sight for the great fish was now churning



Canadian National Railways photograph.

*An artist who loves the sea must find much to delight him in these little harbours that abound so plentifully along the Nova Scotia coast. Here you see it when the weather is fine. To-morrow a great storm may come when the waves will dash against these rocks and beat against the boats that lie at anchor. From the depths of the sea comes the treasure that gives men a living. How the wives must hate to see the little boats go out on stormy days, but men must live, and the men of the sea are brave.*

the sea up with all the weight of its huge frame. Men in the boats were soaked from top to toe, and it is here the danger lies. Al nearly swamped his boat once, just saving himself from drowning. Like many of the fishermen, he cannot swim.

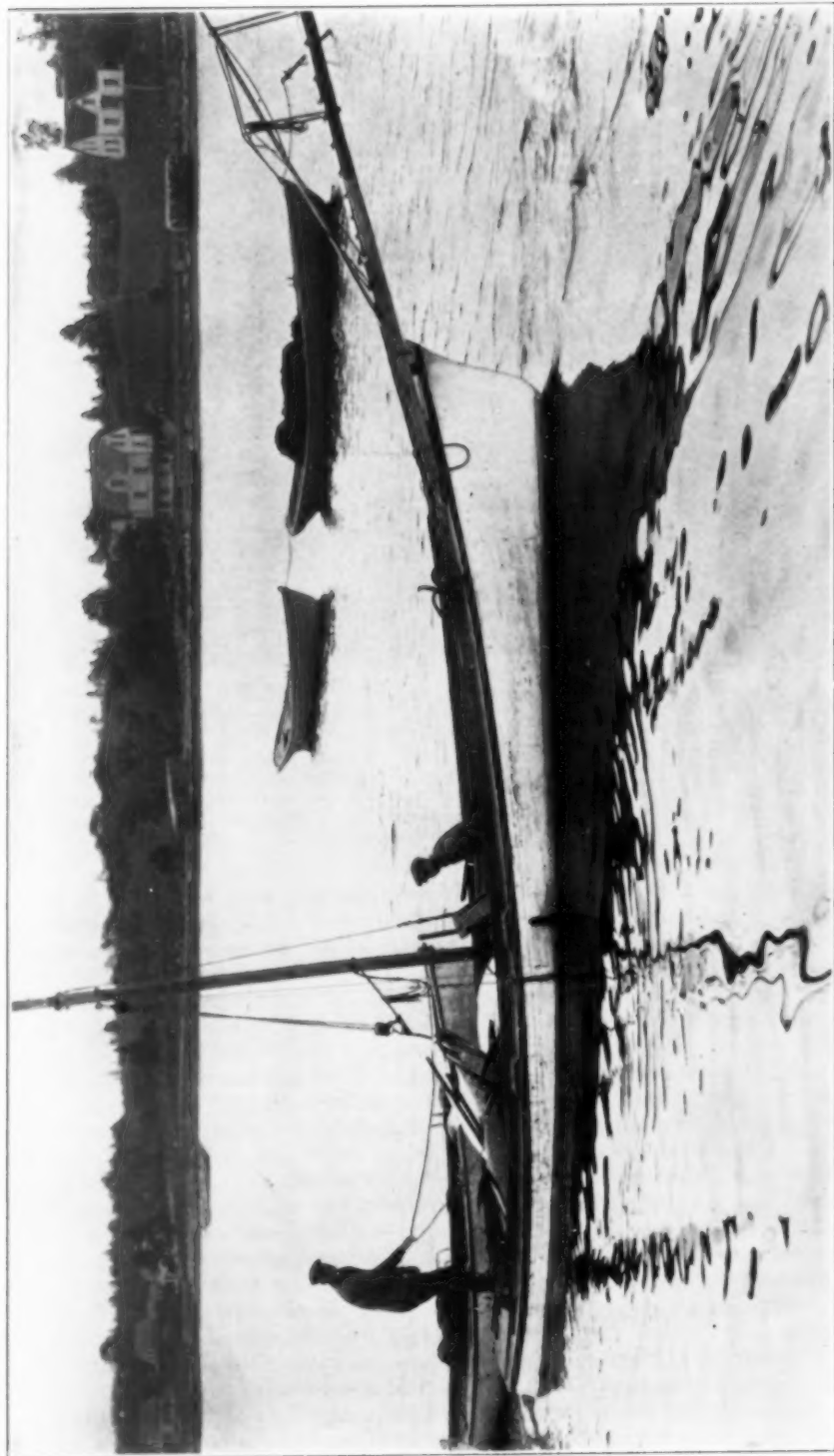
So in spite of the glorious rainbow that appeared on the flying spray we were alive to the danger of the men who stood in dories. Blood was flowing freely, but as soon as it was possible to see to strike another blow the fish gave up the ghost and the first albacore was gaffed, hauled up by a derrick and laid upon the floor of the launch, no longer struggling. Death had been almost instantaneous, the fight the matter of but a few tense moments. Murder in the first degree, but humanely as fishing goes.

You may now conceive the spiller, the one fish killed and the other two swimming about in a vain effort to get out.

Yet for all our thrill we had seen it with only three in the net. One boat had taken up 38 in one dip, and another 45.

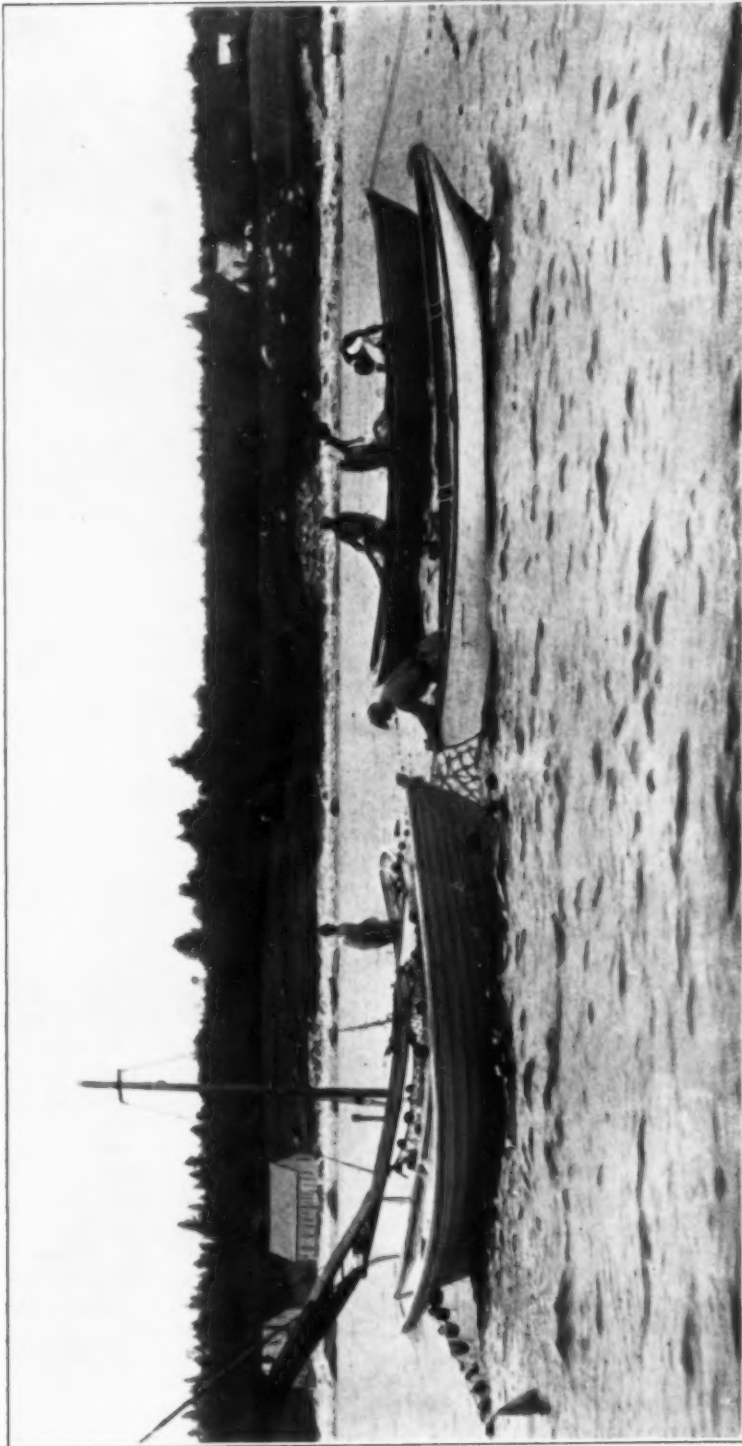
It was at this stage of the fishing that an incident happened a few years ago, an adventure that is still talked of breathlessly. No "fish story" in the popular sense of the word, but part of the history of St. Margaret's Bay. A man named Lawson Miller, of Northwest Cove, was fishing when an unlucky balance toppled him into the spiller. According to the story he caught hold of one of the fins of a fish and was twirled around and around no less than 15 times. Water was flying everywhere but he did not dare let go, for if he had another fish less exhausted would probably have taken him a riding.

Following the emptying of the first trap we rowed to another which had one fish, and with the four lying upon the



*This seems to have been a successful day for the harpooners. The men tell me this method is ever so much more exciting than catching albacore by net, but one must see to believe. Any method is a thrilling performance. Even the men who see it every day will agree to that. The huge net which almost fills the boat on the right is the "spiller."*

Canadian Gov't Motion Picture Bureau photograph.



Canadian Gov't Motion Picture Bureau photograph.  
*Little idea can be given here of that great net called the "spiller." Here you see the men playing it out, a tedious task requiring an hour's patient labour. It is in this net that the fish are finally trapped and forced to the waiting boats. A strong net this, for it sometimes holds 30 struggling fish of an average weight of nearly 500 pounds apiece.*





Canadian Gov't Motion Picture Bureau photograph.

*The moment of a great thrill. A man must be very skilled in throwing his harpoon and the art does not come to all. His eye must be straight and his aim true. Even some of the fishermen find it beyond them. The man on the cabin's top is holding the barrel in readiness to throw over. It was on top of just such a cabin that I watched albacore being trapped. Note the runway on which the harpooner stands.*

floor of our boat we estimated our catch at 2,000 pounds, or a ton of fish, \$240 worth when the price is at its height. Yet this was a poor day's catch. Then as we waited for the sweep to be drawn in little Walter said,

"I want to see it's umbrella."

"What an extraordinary thing for a fish to carry," we laughed, but then Walter found it. It is an auxiliary fin that lodges in the centre of the back. When not in use it folds up and tucks itself away where it cannot be observed. With his little fingers he pulled it out, and it opened and closed in pleats like an accordion, shaped similar to a bat's wing.

Motor boats are used by the harpooning fleet with a sort of runway set in the bow upon which the harpooners stand. From this vantage point they watch for the fish, discerning them by a certain ripple upon the water. Two men go in each boat, one climbing up a mast in the centre of the boat, its height about 18 feet. Here he stands upon a small platform and scans the surface, watching for a fish to "splunge." They usually go out at dawn or at dusk when the water is calm and the ripples can be easily observed.

Having seen a splunge, or in the lands'-man's language a fish jumping, he hastens to the spot, for he knows that a school is there. Will it consist of five or 75? The fisherman clasps his harpoon and his companion stands ready to help him.

Suddenly a fish comes into view and the long harpoon is thrown. If no other fish appears just then the men are free to watch the "sea lion" bobbing up and down, trying to shake off the unwanted weight of the keg that it is forced to carry. Has the thrust been true? Here lies the proof of the fisherman's skill, and here he makes his standing with his fellow craftsmen.

The harpoon is a pole about eight feet in length. On the end a dart is fitted, and to this dart a 300 foot rope is fastened. At the end of the rope is a keg. Thus when the harpoon is thrown the dart penetrates the flesh a foot or more. The harpoon then comes out, but the dart, a steel barb about eight inches in length, turns sideways and remains in place. When this is set the keg attached to the dart is thrown overboard. The fish may now swim as far as 22 miles, but the inevitable keg



Canadian Gov't Motion Picture Bureau photograph.

*It is interesting to note the reasons for the horse's presence. The secret is that albacore are such heavy fish that a strong animal is needed to assist in landing them. Note the derrick that is used in lifting them up from the boat below.*

accompanies it, and it usually becomes exhausted very soon, when the boat follows and takes it in. In foggy weather a sharp eye must be kept lest it get lost altogether.

To the harpooners, harpooning is more exciting than taking albacore from a trap, and in former days it was the only method used. Now it brings in an added 10 or 15 albacore a day, so is used to increase production. Many of the fishermen prefer it, but to me it seemed much less exciting than the thrilling fight between man and fish in the spiller with the consequent danger entailed.

This brings me to an absurd story which is the preface to the third method, that of fishing by hook and line. Two men from Tankook Island were fishing for other game when they saw schools of albacore, but had no hook. Familiar with the habits of these fish they knew they would come where herring were. Often they carry an extra hook and get an occasional albacore at odd times. Having no hook they took a thole pin—

the name for a fisherman's rowlock—and tied it to the end of a line with a herring attached as bait. To the delight of all fishermen who have heard the story, the fish swallowed the thole pin and was caught. Three albacore were taken in this way.

An elderly gentleman from Texas played his 700-pound albacore for three and one-half thrilling hours, only to lose it in the end, and was then forced to recuperate for several days from the strain of such strenuous exertion. Last year a tourist visiting at Chester came to Hubbards and landed one of 600 pounds. A Philadelphian had the good fortune to land one after a fight of some three and one-half hours.

The result of such success is that men go away and tell friends at home about their venture. Hearing of these victories they too want to try, and the consequence is that the fishermen of St. Margaret's Bay have had numerous enquiries from men who want to test their skill. The possibilities of develop-



Canadian Gov't Motion Picture Bureau photograph.

*Even on the warmest days one does not go tuna fishing without the protection of a waterproof suit. Note the size of the albacore hanging beside the man. Also the fish scales without which no fisherman's wharf is ever complete. How would you like to have a fish of this size at the end of your line? It has been done, and it is one of the greatest sports for the lover of adventure.*

ing this as a sport are tremendous. The time no doubt is very near when Hubbards will be known not only as a superbly lovely tourist resort, but also as a centre where albacore provide the most thrilling fishing to the sportsman. Meanwhile, the fishermen harpoon their

fish and empty their spillers, taking in some 1,500 fish a year at a profit of from \$20 to \$60 a fish. And as these men work they keep their ears open for any tale of single achievement, for the fisherman of St. Margaret's Bay is a sportsman, and dearly loves a good fish story.



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# PLAYER'S

## NAVY CUT



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Cork tipped  
or Plain ends

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## ❧ *Editor's Note Book* ❧

Dates, to many people, seem to be singularly dead. So they are at first glance, but there is about them a certain quality of the opossum. Pretend not to notice them, and after a while they will prove to be very much alive. I happened upon a list of Canadian towns with the dates of their founding—generally, by the way, a rather debatable point—and was impressed with the fact that this country is growing up. Last year the towns of Welland and Brantford celebrated their centenary. Within the last few years Ottawa, Goderich, Guelph, London, Peterborough, have done the same. No town west of the Great Lakes has yet reached its hundredth year. On the other hand 20 out of 23 towns in the Maritime Provinces date back to the 18th century; and in Quebec nine out of 12 were founded in the 17th century. Tadoussac, for instance, as well as Quebec and Port Royal, now Annapolis Royal, are all older than New York or Boston or Philadelphia. A citizen of Annapolis Royal may keep this in mind when patronized by a New Yorker.

\* \* \*

Who would look for entertainment in a dictionary of place-names! Well, why not? Sir Wilfrid Laurier spent many enjoyable hours browsing in an Unabridged Dictionary, while the Debate on the Address dragged its weary length. A Canadian dictionary of place-names is packed with curious information; why Ottawa was once called Bytown, and Toronto known as Muddy Little York, and St. John as Town of Parr; how the citizens of Rat Portage invented Kenora; why one Ontario town was known as Mayer's Creek, another as Coote's Paradise, another as Shade's Mills and still another as Ebytown. Memories of the old world are preserved in such as London on the Thames and in Middlesex County, Paris, New Edinburgh, New Dublin, New Glasgow, Liverpool, Berlin (now Kitchener), and of the new world in scores of Indian

names, particularly of rivers and lakes, Kaministiquia, Mistassini, Winnipegosis, Timiskaming, Okanagan, Athabaska, Miramichi, Passamaquoddy, Kennebecasis.

\* \* \*

The British Association for the Advancement of Science celebrates its centenary in September. The meeting will be held in London, and it will probably be the largest in the history of the Association. Canada will be well represented, and no other Canadian organization sends a larger group than the Canadian Geographical Society.

\* \* \*

This year's meeting of the Royal Society of Canada was of marked interest to the members of our Society, because Dr. Camsell happened to be President of both organizations—and incidentally had to prepare two presidential addresses. The Royal Society, like our own, lost an eminent Fellow in the death of Dr. Henry M. Ami, whose scholarly and untiring work in the field of Prehistory won international recognition.

\* \* \*

Browsing through a recent book on the Sea-Serpent I came upon the following description of a curious monster observed by one J. Mackintosh Bell off the Orkneys: "I looked, and sure enough about 25-30 yards from the boat a long neck as thick as an elephant's fore leg, all rough-looking like an elephant's hide, was sticking up. On top of this was the head which was much smaller in proportion, but of the same colour. The head was like that of a dog, coming sharp to the nose. The eye was black and small, and the whiskers were black. The animal was very shy, and kept pushing its head up then pulling it down." The name of course caught my attention, but I found that it belonged to a writer to the Signet in Scotland, not to our esteemed Vice-President. Dr. Bell has undoubtedly



## Caution or Accident?



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seen many curious things in his wanderings about the world, but it remained for his namesake to discover a Sea-Serpent.

\* \* \*

The Welsh are unquestionably a remarkable people, and it appears that they are also, to an extraordinary degree, enterprising, patriotic and optimistic, as witness the statement in a recent work on Wales that a weekly in Welsh is today published in Patagonia. This would seem to the unprejudiced reader about as unpromising an undertaking as selling veal pies to the Hindoos or B.V.D's. to the Eskimoes.

\* \* \*

A propos of J. Mackintosh Bell and the Sea-Serpent, an eminent Dutch scientist, in a paper read not long ago before the Royal Geographical Society, mentioned that while cruising off the coast of Java he had seen an enormous white flat fish between 15 and 20 feet in diameter gliding through the sea and from time to time moving great white fins out of the water. Truly there are in the sea, even more than on the land, more things than are within reach of

the average man's credulity. For we are not a credulous race, as witness the remark of the countryman who first saw a giraffe at the Zoo—"There ain't no sech animal."

\* \* \*

Speaking of Java, it has been said somewhere that a certain British Minister for the Colonies—of course many years ago—sent for his private secretary and said to him, "Where is Java?" and that astute young man unhesitatingly replied "Java, sir, is a little island of the West Indies where they make jelly." And Java is about the size of England, with about the same population.

\* \* \*

A book on the Barren Lands, published a short time ago, illustrates the fact that the writers of blurbs do not always make a very exhaustive examination of the text. In the Author's Note we are told that the writer had found his material "in the extensive diaries and records of Captain James C. Critchell-Bullock". Now hear the blurb: "Taken down by Malcolm T. Waldron (the author) from Critchell-Bullock's lips."

## ✠ Amongst the New Books ✠

*Go West, Go Wise.* By Marjorie Harrison.  
Toronto: Longmans, Green & Co.  
1930. \$2.50.

Miss Harrison is one of that numerous company that land at Quebec, travel across Canada to Vancouver, with brief stops at some of the principal towns, and then return to tell the world how Canada should solve her problems. Nevertheless her book is both more readable and less superficial than most of its predecessors. She writes vivaciously of life in the eastern cities, but her real interest is in conditions in the Prairie Provinces. She is very pessimistic as to the prospects of western farming; does not think any Englishman, and particularly any Englishwoman, should have anything to do with it, under existing conditions. The life is too severe. It offers an escape from the pernicious dole, and that is about all. She sees Canada as a land of promise, but not, apparently, to Britons—"At present it looks as if an army of Slav peasants and American business men will share the honours."

\* \* \*

*A Century of Atlantic Travel.* By Frank C. Bowen. Boston: Little, Brown & Company. 1930. \$4.

Mr. Bowen tells the story of transatlantic travel, from the days of the sailing packets of the Thirties to the immense liners of to-day. In an introductory chapter he gives us the historical background, the period of the sailing ship from the earliest beginnings of a regular service between America and Europe down to 1830. It is a fascinating story, well told, and thoroughly illustrated. One gets the atmosphere of each decade, trade in the Thirties, Bucko Mates and Packet Rats, privateers and smugglers, Bluenose ships; the begin-

ning of the Cunard Line in the Forties, rivalry between sail and steam, the Clipper Packets, improvements in speed and accommodation; British and American companies in the Fifties; influence of the Civil War in the next decade, the steel ship, and the triumph of the screw; the White Star Line in the Seventies, International co-operation in the Eighties, the twin-screw Greyhounds in the Nineties; then more speed and size and luxury in the new century, the Diesel engine, and problems of to-day.

\* \* \*

*Manga Reva. The Forgotten Islands.* By Robert Lee Eskridge. Toronto: McClelland & Goodchild. 1931. \$4.

The appeal of the South Seas is irresistible, to writers and readers alike. Not a year goes by but it brings half a dozen or more books about the islands of the Pacific, sometimes authoritative oftener superficial, but generally readable, if only because of the subject. Mr. Eskridge spent some months on the island of Manga Reva in the little known Gambier Archipelago, between South America and New Zealand. He writes with insight and enthusiasm about this "Forgotten Archipelago" and its Polynesian inhabitants, its former cannibal kings, its massive and mysterious ruins, with their suggestions of a Lost Continent, the mad Jesuit Laval and the vast cathedral he built in the jungle, submarine gardens with their incredibly gorgeous flora and fauna, ghosts and cats that float in the air and goats that sing at sunset and mysterious footprints in the silver sand. Mr. Eskridge is an artist and illustrates his story with very modernist pictures, which you will like or dislike according to your artistic prejudices.



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